FULL EMPLOYMENT
IN OUR GLOBAL VILLAGE

Jose C Rodrigues

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To my wife

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You see things and you say "why?" but I dream things that never were, and I say "why not?"

George Bernard Shaw

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Back in 1989, I crossed the front door of Economics University for the first time. In one of the first lecturers, one teacher told the class that *"in our life, nobody gives anything to somebody; even when we give any alms to a homeless, we are just buying gratitude."* I felt in shock immediately! I thought about how it was possible finding someone with such a materialistic mind. But, in the second moment, I realized if someone is buying gratitude that must be because gratitude has value. And I never stop studying economics ever since.

Studying economics has brought me a lot more questions than answers, and a lot more doubts than certainties. Analyzing economic problems under the *ceteris paribus* assumption became a serious difficulty, for it means that things will work out as foreseen just as long as any other economic parameter, outside of the analysis, is standing still. And I could not be able to identify a situation where the assumption could be completely confirmed by empirical analysis.

Nonetheless, and definitely, I got captured by the interplay between human behavior and the financial system. Both the literature and the professional practice have shown that economic policies (such as credit limits and interest rate manipulation), concepts (such as culture, trust, networking, and legal frameworks), and emotions (such as fear and greed), all play an important role in the overall economic process. Nowadays, though a lot of questions are remaining, the answers started to pile up once I could be able to integrate the disparate economic theories in a logical set.

I found out that the greatest economists of all time had given their contribution to the society with a deeply open mind, submitting themselves to the critics, and trying to add something new to the understanding of the economic process. Unfortunately, they had not the possibility of interacting with one another, communicating as we can do it today, in an easier and swiftly manner. However, despite they had lost the opportunity, only John Maynard Keynes (1883-1946) and Joseph Alois Schumpeter (1883-1950) had the possibility of really exchange ideas with one another, for they were born and died almost at the same time. Keynes, in "The General Theory of Employment, Interest, and Money" (1936) poses that we cannot rely on private initiative for assuring economic development, whilst Schumpeter, in "The Theory of Economic Development" (1934) – though the book was initially published in Germany in 1911 – states that we must rely on private initiative for assuring economic development. I believe I understand them both, and that leads me to agree with those two of the greatest economics' minds of all time, because the two theories, instead of antagonistic, complement each other.

The essence of those complementarities is what has brought economic research this far, but their linkage is still missing. The main economic theories developed until now are Classical, Keynesian, and Schumpeterian. Each one of them focuses on understanding the mechanisms to increase economic development and employment levels. Also, each one of them requires a different set of assumptions for their theoretical economic mechanism to achieve its aimed goal. For regards to an inherent animosity between the supporters of each one of those theories, research has lost the focus on the possibility of gathering them all together.

My work was settled on identifying the interplay between society's organization, human behavior, economic development, and employment. I have started from analyzing the historical evolution regarding the organization of the society, which enables a deeper understanding of the benefits of the actual organization versus what has happened in the past. I understood the misconception between productivity and value creation and realized that higher consumption levels do not always translate into higher social utility. The studies led me to draw a conceptual model that integrates the information provided by prior analysis with the chief assumptions of the three above mentioned main economic theories developed so far. Moreover, I was able to arrive at an astonishing conclusion: the only reason why we do not have full employment is that we are afraid to do so!

When I started disclosing the idea that full employment is quite possible in any economy, people's reactions were surprising to me. For the first time, a few years ago, I have mentioned this idea to a friend of mine, which is a judge and has a blurred sensibility regarding economic issues. He joked saying "That it would be revolutionary!" Afterward, I have exchanged my ideas with some other friends, economists, which had disparate reactions and helpful comments, encouraging me to pursue my studies. However, each time I presented the arguments, showing that full employment is possible, everyone seems to end up feeling threatened somehow. Therefore, I realize that I am facing a bloodcurdling task.

I have decided to write this book because of Laurence Golborne.

Laurence Golborne is a Chilean civil engineer who was Chile's Mining Minister by August 5, 2010, when a mining accident, has occurred at Copiapó. Thirty-three miners got trapped 700 meters underground following a gold mine collapse. There was no communication with the trapped miners. There was no way of knowing if someone was alive. In the thirty years before the accident five other similar accidents had happened with no survivors. The usual procedure was to forget the men and carrying on. But Laurence Golborne assumed that it was government responsibility in general, and his minister's responsibility in particular, checking out the accident and making sure that everything in his power would be done for rescuing every man.

He ordered that camping would be settled down, providing a school for the children and a mess room for the miners' relatives who were waiting for their beloved ones. He managed to coordinate the best-known drilling technicians in the world to reach the miners. And he never got out of Copiapó until his task was finished.

It was possible that the miners had food for three days maximum and be in a room known as "the refuge;" a place built inside of the mine to provide an escape possibility in case of accidents such as this one. By August 19, after fourteen days drilling unsuccessfully, facing miners' relatives' despair, facing technicians' predisposition to give up, and facing Chile President's pressure for results, with every reason to stop, Laurence Golborne refused defeat and kept moving towards the goal he was there for. By August 22, technicians successfully managed to drill into the refuge and the miners were able to, for the first time, announced the world they were all well. The rescue procedures were completed by October 13.

The story is well documented in a movie directed by Patricia Riggen, starring, among others, António Banderas, Rodrigo Santoro, and Juliette Binoche, named "The 33."

I believe Laurence Golborne changed the world! On June 23, 2018, almost eight years after Copiapó's accident, now in Thailand, thirteen members of a soccer team, twelve young players and their coach, became trapped in a cave due to monsoon heavy rains. They could only be found by July 2, nine days after their entry into the cave. The boys and their coach were found by a British diver. The world joined efforts and, not even for a second, the hypothesis of forgetting about those helpless persons was considered anywhere around the planet.

I am writing this book because Laurence Golborne has shown that we can trust politicians will make good things happen. This work can be useful to economists, academic researchers, and the banking industry. However, this book is mainly directed towards politicians, and to the politician that lies in every human being. Those are the men and women who can really make a difference. As I will put forward, most of all, building a full employment reality depends upon our will, and it does not require changing our way of life.

Imagine how it would be our world if every adult people were employed. Imagine the levels of welfare that kind of society would be able to reach. This is an important exercise because focusing on how we would like things to be is one first step to make dreams come true. Before I throw into your arms the heavyweights that science has been able to provide us so far, I believe it is paramount to identify the problem we are dealing with, which summarizes itself in two questions: why are we unable to living consistently such a reality, and what are the reasons preventing us from actively building the full employment reality? By the end of this book, you will be able to answer these questions by properly grounding your reasoning on theoretical and empirical evidence. After that moment on, I believe you will be giving your contribution to making it real.

Introduction

Since 1776, when Adam Smith published his book "The Wealth of Nations," economics research has been focused on increasing welfare by reaching economic growth and full employment. Researchers have always been aware of the interplay between human behavior, the financial system, and the employment level, making employment a focal subject under analysis. In this realm, economic theories evolved by an increasing linkage between the disparate established relationships among economic variables; particularly among the price of commodities (inflation), the availability of money (credit limits and interest rate), and the level of employment.

Long ago the society realized that effective economic policies are acceptable according to their effects regarding both labor quality, as input in the production function, and labor quantity, as full employment has always been seen as an important social asset. Economics is defined as the scientific branch which studies the efficient allocation of limited resources to provide the satisfaction of virtually unlimited wants (Sousa, 1988)[1]. Because individual's analysis opens up a wide range of personal tastes and preferences, eventually impossible of aggregating in a social ordering (Taylor, 1972), then a theoretical demarked separation came to light between the "*relative desirability of economic states of affairs*" (Mongin, 2006, p. 20) – labeled normative economics – and the "*perfect uniformity in all aspects of market exchange*" (Kregel, 2012, p. 9) – known as positive economics. This work considers the possibility of assuring full employment under the guidance of positive economics: i.e., it analyses how known uniform behavior, both individually and collectively, provides the conditions to ensure full employment.

Emotions and individual affective states play a crucial role to enhance the society's well-being. Science explains that there are mechanical links between affection and performance in any organization – impacting variables such as job satisfaction, team performance, leadership, self-efficacy, and creative performance – and setting up individual behavior according to specific levels of direction, persistence and intensity (Wagner and Ilies, 2008). Besides performance, the outcomes of these emotions often translate into moods, feelings, and actions, which are not always in a direction favoring social well-being, and rather directed towards individual benefits alone.

By focusing on their interests almost exclusively, each society's member ends up compromising the efficiency of their mutual interactions for reaching the collective good. But a general focus on efficiency requires a concern "*with the manner in which human assets are organized*" (Williamson, 1981, p. 549) and perhaps should be managed by institutionalizing norms of rationality (Greenwood & Hinings, 1996). Hence, setting up norms of rationality requires erecting templates for organizing human behavior which depend upon a given organizational context that provides boundaries for organizational action (Greenwood & Hinings, 1996).

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[1] For compliance with intellectual honesty, and throughout this work, I follow APA Style guidelines, which can be known at https://www.apastyle.org. The author (or authors) of the intellectual work I am citing, and grounding my reasoning upon, is indicated in brackets, followed by publishing year. By the end of this work the reader will be able to find the complete identification of these sources.

The formal and informal rules, upon which we depend, condition the economic model we are living in. The dynamics in the organizational environment stem from material and technological conditions, as well as from cultural norms, symbols, beliefs, and rituals, which demand to address "*the normative and cognitive forces that constrain, construct, and empower organizational actors*" (Suchman, 1995, p. 571). Indeed, we consider legitimate a given decision or policy according to the set of beliefs we rely on. Scott (2004) outlines that the examination of social systems, established as compulsory guidelines for social behavior – like structures, schemas, rules, and routines – range from micro interpersonal guidelines to macro global frameworks. This is the way the rational process takes place in our minds and impacts our economic decisions. Therefore, our economic framework is setting up both the legitimating environment and the process of legitimation (Kostova & Zaheer, 1999) by which the society embraces its welfare production and distribution. Understanding the economic template we are living in is thus paramount.

Rationality is a general assumption presiding overall theoretical economic development. For the large majority of the population, labor is the only way of living they can depend upon. Hence, the well-being of the majority of the people directly depends upon their ability to find a job which, at least, enables each person satisfying their basic survival needs. Economic science had always looked at the employment level as a crucial subject under analysis. Our current template allows the existence of involuntary unemployment, and the rationality behind it can only be understood by analyzing the historical evolution of our economic society either by practical or theoretical terms.

The economic template we depend upon entirely accepts the existence of unemployment. Governments recognize the welfare loss inherent to the existence of people who are not able to fulfill their basic needs. Consequently, governments claim to direct their economic policies for raising employment levels. Full employment looms as the target to be reached or the endpoint of a successful economic strategy. The research question I am dealing with is: what it takes to have full employment as the starting point of our economic template?

The basic idea hinges around our current economic template, meaning that any change proposal must be grounded in solid theoretical relationships, namely: (1) must clearly define the concepts of value and welfare; (2) must clearly identify the process of value creation in which it relies on; and (3) must clearly identify the role of money for the successful development of the economic process. Therefore, understanding the socioeconomic evolution in conjunction with the economic theories sets the inception of this work.

In England, with the industrial revolution, particularly during the XVIII century, production was increasing at an astonishing pace, grounded on the continuously increasing number of new industries and new firms (Marx, 1867). Classical economic theory loomed addressing value creation through the lens of supply: general welfare would improve just as long as the society was able to continue producing the goods and services that would match unsatisfied needs. The overall welfare was enhanced by increasing competition across new market firms which would increase the number of available goods while diminishing its price. Employment was considered a direct consequence of the market price of labor, which was seen by Ricardo (1817) exclusively as the price that was paid for labor. Labor was theoretically considered in similar terms as a commodity, and those who do not wish to work at current market prices would be because they do not want to. Laziness was considered the cause of unemployment and the main focus for employment creation should be by fostering the establishment of new enterprises.

In 1936, John Maynard Keynes alerted that the persistent existence of involuntary unemployment was an issue with which Classical theory could not deal effectively. Keynes (1936, p. 99) explained that "*employment can only increase pari passu with investment unless there is a change in the propensity to consume*." The propensity to consume was assumed by the author as decreasing along with people's income increases. So, when reaching full employment, overall consumption would be expected to decline, private enterprises would be persuaded to decrease production, and, accordingly, to reduce their demand for labor. Hence, at this stage, the economy could not depend upon a private initiative for assuring its employment levels. Keynes (1936) proposed that the government should play a decisive role in ensuring the economy's investment needs while enabling higher employment levels. Economic equilibrium started to be seen as a necessary matching between supply and demand, and the seed of social welfare burgeons.

Almost at the same time, in 1934, Schumpeter disclosed his theory of economic development which was substantiated on leaps of technological innovations. To him, the entrepreneur was a hero always looking for a new investment opportunity and always struggling for creative ways of satisfying consumers' needs, whether through new products or new ways of organizing production. Welfare was improved by waves of cheaper products which would increase real wages and always allowed the economy returning to a stable equilibrium. Labor variability was seen as part of the productive means, incorporating the economic circular flow, and floating around an equilibrium value. Schumpeter brought to the realm of economic analysis the influence of institutional frameworks since the emergence and effectiveness of new entrepreneurs carrying out new combinations is conditioned by the organizational context faced by them.

This brief description of the main economic theories is insufficient to deeply understand the cause and consequence relationships that are established in an economy. Nonetheless, it is possible to extract a few considerations. First, it stands out a direct linkage between production and consumption, since production will be directed towards the satisfaction of society's needs. Second, according to the three theories, the economy has a dynamic of its own, which is hardly caught by the human eye, and relates to human behavior: Classical theory addresses laziness as the cause of unemployment; Keynesian theory outlines that change in consumer behavior will lead to adjustments in production and investment; and, Schumpeterian theory emphasizes both the importance of positive opportunistic behavior implementing new combinations, and the role of institutions creating the landing-place from which economic development might take off. Therefore, the economic process is characterized by constant change, activity, and progress, and depends upon the intertwined relationships between the individual behavior, at the micro-level, and the society's organization, at the macro-level.

Identifying the causational relationship between the micro and macro levels is usually a very hard task. When a governor is facing a meager knowledge of these subjects, decisions tend to be made according to a given influences framework. Often, the government's economic policies depend upon the chief theoretical focus of the ruler combined with the institutional pressures exerted by the environment upon him. Do we need to have full employment for maximizing social welfare? Can we speak about economic efficiency while disregarding social well-being? Supporters of each of the above-mentioned theories will be prone towards a very idiosyncratic answer matching their feelings and interests. This reflection suggests that there is a bidirectional relationship between our societal organization and our organizational main actors, upon which the actions of billions of economic agents take place every day.

Our societal organization relies on the use of money as well. According to Keynes

(1936, p. 146) money is used for three distinct motives: (1) there is a need of cash for performing current transactions of personal and business exchanges; (2) there is a need of cash as a value reserve for securing a future cash equivalent; and (3) there is a need of cash for a speculative-motive, "*the object of securing profit from knowing better than the market what the future will bring forth*." Therefore, our economic template needs to incorporate money and clarify its contribution to the welfare in general, and employment creation in particular.

Hence we can conclude that our current economic template stands upon three pillars: (1) an institutional framework[2], encompassing both emotions and rationality (regarding formal and informal dimensions), which conditions both organizational context and organizational actor's actions; (2) a theoretical framework which conditions governmental economic policies; and (3) a monetary framework which conditions every business relationship established throughout a market economy. However, it is still unclear why full employment remains the target of economic policies rather than its starting point.

The main purpose of the herein exposition is to enable the reader to draw self-conclusions about the economic facts at hand, free from outer influences. I intend to provide a wider understanding of the functioning of an economy regardless of any type of ideal, neither theoretical nor political. Moreover, I will try, as much as possible, to maintain the explanation within the written boundaries, limiting the use of figures, tables, and numbers to a minimum, to keep it intelligible whatever the reader's academic background. Finally, and hopefully, I will be able to explain the reasons leading me to believe mankind will build a full-employment economy real soon.

The remaining of this work divides broadly into four parts: Part I grapples the meaning of welfare and lays a historical perspective on the societal organization to enable an understanding over the causes and consequences of different societal structures as time goes by; Part II deals with the crucial concept of opportunistic behavior, which defines the scope for understanding microeconomics and macroeconomics inner moorings; Part III addresses economic development in general, focusing on several crucial concepts such as productivity, value creation, division of labor, specialization, production, consumption, savings, investment, the role of the financial system, and the dynamics regarding both the Great Depression and the Great Recession; Part IV presents the groundings for an evolutionary proposal, making full employment a reality, by setting up the ingrain assumptions and necessary economic reconfigurations, as well as the expected results. Afterward, a brief discussion will take place, followed by the conclusion.

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[2] Some selected readings upon this subject are Hofstede (1984, 1993); Boyacigiller & Adler (1991); Haveman (1993); Murtha & Lenway (1994); Suchman (1995); Greenwood & Hinings (1996); Kostova & Zaheer (1999); Human & Provan (2000); Scott (2004); Kostova, Roth & Dacin (2008); Wagner & Ilies (2008); Berry, Guillén & Zhou (2010); Håkanson & Ambos (2010); Khan, Zhang, Hashmi & Bashir (2010); Meyer, Ding, Li & Zang (2014); Girod & Whittington (2015).

No society can surely be flourishing and happy, of which the greater part of the members are poor and miserable.

Adam Smith

Ever since the beginnings of economics as a science, considerations over the society´s welfare were right on the front page. Nonetheless, the concept of welfare as an abstract idea is not prone to an easy prescription of a widely accepted definition. Nowadays, welfare is often associated with a stream of nouns such as health, happiness, fortune, wealth, success, prosperity, good, comfort, convenience, and joy. These nouns can be arranged under two basic categories, physical and emotional. Thus, it is possible to define welfare as the physical and emotional general state of all members of society.

Macroeconomic policies are supposed to be drawn towards enhancing the welfare of the entire community. Therefore, focusing exclusively on increasing the production of goods and services is insufficient to enhance general welfare to the highest possible standard. Since emotions, moods, and feelings are difficult to describe and measure, even behaviorist research used to disregard its analysis, for it was thought it would disrupt rationality (Wagner & Ilies, 2008). Approximately from the 1980s on, researchers start directing their attention to the cognitive processes present in the realms of economy and management. For a truly developed society, a sublime level of welfare means a supernal satisfaction of both the physical and emotional needs of every citizen.

Rationality emerges as a weapon available for satisfying our physical and emotional needs. Hence, value creation depends upon the society’s capacity to provide the necessaries of life, as well as the ability to produce positive emotional states in all of its members. The chief assets of people are no longer restricted to a material dimension.

The concept of economic efficiency – which means producing the highest possible quantity of a given commodity at the lowest possible cost – must be extended to the production of emotional goods. In this realm, social assets are a dimension since “*in an individualistic culture, people look to their own actions to understand who they are*” while “*in a collectivistic culture, people base their self-understanding on the reaction of important others around them*” (Earley, 1994, p. 89). Thus social interactions condition the individuals’ emotional state and, consequently, the individual’s welfare.

The management literature outlines that business performance is directly impacted by the management of cultural diversity at several dimensions such as the attraction of human resources, creativity and innovation, and organizational flexibility (Cox & Blake, 1991). Management research has increasingly focused on the importance of non-physical elements for efficiently using available resources. Hofstede (1993, p. 92), focusing on the effects of cultural differences to explain interactions among individuals, poses that "*a forest is not a bunch of trees: it is a symbiosis of different trees, bushes, plants, insects, animals, and micro-organisms, and we miss the essence of the forest if we only describe its most typical trees*." Therefore, the individual becomes an important unit of analysis. Being economically efficient becomes increasingly hard for our society, but enhancing overall welfare becomes easier since we now understand that the essence of our community lies in diversity. Accordingly, being economically efficient demands both exploring and exploiting[3] the essences of our society. It becomes relevant to identify the goals set by every business performer.

Identifying the asset dimensional range of a society becomes necessary for setting up an efficient organization. There are, at least, four different asset dimensions of welfare production: (1) material; (2) scientific; (3) human; and (4) social. First, increasing the number of goods and services available in society for satisfying our wants dismisses further analysis. Second, increasing our scientific knowledge, and being able to widespread it, is of paramount importance for improving our society's welfare, since the knowledge of a few would sooner be fruitful to all. Third, because each human being is unique, each person can achieve goals and performances in a particular field that cannot be reached by others, making each person the uppermost asset of our society. Finally, social interaction is the process which enables changing experiences, learning, and most of all, coordinating efforts to reach common goals.

Social coordination to enhance the community's welfare has evolved across time. Smith (1776) categorizes the ancient societies according to their way of living. He describes the evolutionary societies as follows: hunters, shepherds, husbandmen, artificers, and industrials. Also, he settles an important parallel between the ways each society ensures both feeding and defense. Remarkably, disparate coordinating efforts between their members turn out completely different outcomes for the commonwealth.

Smith (1776, p. 691) considers the society of hunters "*the lowest and rudest state of society,*" for every man is a warrior, as well as a hunter, and the community moves from place to place chasing their prey. In this society, a man must hunt to maintain himself, either when he is living at his home place, or when he is way, fighting his enemies. Each man must maintain himself by laboring, and the society is not organized between their members towards the actions of feeding and defending themselves, in an efficient manner.

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[3] See March (1991, p. 71) for a very interesting discussion on "*the relation between the exploration of new possibilities and the exploitation of old certainties in organizational learning*" and the effectiveness of both processes.

A more evolved state of the society is that characterized by a nation of shepherds. In the same way as in the hunters' society, the nation of shepherds also does not have a fixed place to live, and, similarly, every man is also a warrior. However, this time, when the community moves, they all move together and maintain the whole of its members. The actions of feeding and defending themselves become a collective task and the herds are a community's resource. The community starts being efficient while coordinating the efforts of their members, enabling these societies to grow bigger than a society of hunters, whose survival is dependent upon finding prey in nature. Therefore, a society of hunters would easily be conquered by a society of shepherds.

The next stage in the evolution of human societies was set up by the emergence of agriculture. A nation of husbandmen, conversely to the previous ones, implies a fixed place to live and prevents the possibility of the whole nation being away at war. However, between seedtime and harvest, a time was set in during which the farmers could be away at war. When at war, these laborers maintain themselves serving the crown at their expense. But, in what concerns to war, the effectiveness of their coordinated efforts was limited to a given period. Nonetheless, since the beginnings and up till now, war has always been addressed as an easy way to improve the welfare of a given community.

When the improvements in manufactures gave place to the fulltime employment of "*an artificer, a smith, a carpenter, or a weaver*" (Smith, 1776, p. 694) it became impossible to make a man giving up of "*the sole source of his revenue,*" just to go to war. Thereafter, those who went to war had to be maintained by the public. Improvements in war crafts demand improvements in manufactures as well, setting up a higher coordination need of the efforts of the whole members of the society. In this more civilized society "*the soldiers are maintained altogether by the labour of those who are not soldiers*" (Smith, 1776, p. 695), and the expense of maintaining an army becomes a gradually lower proportion of the total revenue of the society. According to Adam Smith, adopting as standard the ability of a community to go to war effectively, it is the progress of industries, by setting higher and higher levels of specialization and division of labor, that gives rise to the more civilized society we can get.

The evolution of a societal organization, as presented by Adam Smith, allows a few interesting considerations. First, a higher level of civilization can be depicted by both a higher capacity for satisfying society's wants and a higher complexity when coordinating people's actions. Second, the actions of the societies were targeting increasing the welfare of all its members. Third, increasing a community's welfare was sought by the development of both a positive opportunistic behavior (by improving tools, disclosing and sharing knowledge, improving living conditions, and increasing both the coordination and cooperation of its members) and negative opportunistic behavior (by taking from others their goods).

Marx (1867) adopted a different view regarding the development of the society by establishing a link between the structure of society and the use of money. To him, society is like an organism that is permanently changing. The evolution of the society was regarded according to the increasing degrees of dependency that were been built among men. According to Marx (1867, p. 212), in the "*darkness European Middle Ages*" personal dependency was characterizing all social relationships regarding material production, and encompassing many other scopes of life as well. He poses that "*instead of the independent man, here we find only dependent men - feudal servants and lords, vassals and suzerains, laymen and clerics.*" Thus, at this time, material production was accomplished with the common work of the whole members of the society and the social relationships among men were straightforward regarding production and its distribution. In the feudal society, money was used just for the exchange of commodities resulting from the process of production, and it did not take part in the deployment of a productive unit.

However, in a capitalist society, the link between production and distribution is compromised. First, Marx (1867) considered that each artificer – a weaver, a carpenter, or a smith – could only sell his product, because someone else had already sold before. A man needed to sell the product of his work to be able to buy his necessaries. The dependence relationship among men is now broken, and a man does not care anymore if the person who stands before him as a buyer, may also be the one whom he buys from. Second, since a man possessing money could establish himself as a producer, producers now had become able to compete among themselves for the available market. Therefore, Marx (1867) states that, while in the previous stages of societal evolution men used to control the whole process of production, now, sadly, under the capitalist society, it is the process of production the one who controls men.

Mainly because of the existence of this counterintuitive notion of lack of control over the process of production, Karl Marx considered that the capitalist way of production did not foster the welfare of the whole society. Though the laborer was now free to dispose of his workforce, he was still dependent on finding a capitalist looking for it, and he was also constrained on the price the capitalist had settled for paying his work. Interestingly, the author recognized that the capitalist society was able, more than ever, to produce the highest possible quantities of goods, but he thought that this accomplishment was possible in exchange for too much suffering of the general people, the laborers.

By integrating Adam Smith and Karl Marx's ideas we can conclude that human society seems to be in a permanent state of mutability and the different stages of evolution seem to require higher degrees of coordinated efforts, which, in turn, establish a stream of dependence relationships. It is interesting to realize that each community seemed to always be striving to reduce its exposure to the costs of both welfare loss and uncertainty; and, also, to always be avoiding the welfare loss caused by war events, whilst trying to produce as much as possible of whatever their wants might be. Moreover, while Adam Smith's arguments drive us to conclude that increasing societal organization leads to higher product development stages, Karl Marx was the first economist outlining that there is a causal relationship between the process of production and the societal organization. So, there is a bilateral relationship between people's coordinating efforts and the process of production.

Both men recognized that the capitalist society constitutes the highest degree of social cooperation ever achieved, and also that it is the way to increase production significantly, albeit needing some form of governance. They agreed that producers would take advantage of society whenever an opportunity was conceded to them. Smith (1776, p. 735) identified the persistent existence of "*contrivances*" for building monopolies, stating that companies were acting with a "*view* (…) *to raise the rate of their own profit as high as they can; to keep the market, both for the goods which they export, and for those which they import, as much understocked as they can,*" hence trying to profit at the expenses of the remaining society. Marx (1867), in turn, identified the adulteration of articles of food and drink – which he classified as unbelievable in what concerned to records of bread adulteration – which gave raise to specific legislation by the House of Commons, in 1855. Furthermore, the author identified the abusive exploitation of laborers as well, typifying those abuses by naming three parliamentary inquiries - Mr. Scriven's report to the Children's Employment Commissioners, in 1841; Mr. Longe's report, "First Report of the Children's Employment Commission," in 1863; and Dr. Greenhow's Public Health, "3rd Report," I, 112-113, in 1869 – all reporting deplorable conditions in which children of all ages were laboring at the time. Therefore, the creation of institutions fostering economic stability and people's welfare was both necessary and unavoidable.

Ever since the beginnings of a societal organization aiming at welfare improvement, certainly with increasing levels of awareness, mankind has realized that prosperity is dependent upon the quality of its institutions, most of all because it fosters positive opportunistic behavior while inhibiting negative opportunistic behavior. However, increasing levels of complexity, regarding both economic and social realities, seems to be narrowing down the focus of the members of the population towards their idiosyncratic activity and interest. This effect often translates into a loss of the wider perspective over the institutional and organizational context which has led to the peculiar specificities of each member. Thus, in an evolutionary society, continuously fostering welfare, for everybody without exception, requires permanent surveillance to make sure that the narrowed focused behavior of each member does not collide with the general interest of the society.

The literature identifies the existence of institutional pressures of both formal and informal categories – laws, rules, regulations, norms, cultures, and ethics – which set constraints and boundaries for human actions (Peng, Sun, Pinkham & Chen, 2009). This socio-institutional framework ends up defining the scope for economic interactions among individuals and sets up the real dynamics of our welfare. Dacin (1997, p. 46) conceives the institutional environment as *"the arena for ecological dynamics in that institutional forces prescribe institutionally driven selection criteria via which organizations are created or dissolved."* Also, she remarkably outlines that, instead of contradictory, institutional and market forces are complementary. Indeed, supply and demand dynamics must deal with both, the set of resources necessary for product delivery, as well as the individual's tastes and preferences of the members of the society. Even when pursuing their individual interest (Adam Smith's "invisible hand"), economic agents cannot ignore the pressures coming out from the institutional surrounding, for the effectiveness of their actions are dependent upon its general acceptance. Institutional and market forces combine to deliver a given level of welfare to society.

Economic efficiency for producing welfare is thus dependent on several different clustering of societies, for the existence of cultural differences among communities will impact their chosen way of living and inner organization. Specific types of societal organization can be categorized according to disparate criteria such as geographic proximity, mass migrations and ethnic social capital, religious and linguistic commonalities, economic and socio-political development (Gupta, Hanges & Dorfman, 2002), and other cultural differentiators, such as attitudes, values, and work goals (Franke & Nadler, 2008). These clusters are organized for pursuing the welfare of their communities. However, given the existence of a global economy, it is not possible to ignore the impact of worldwide institutional pressures, i.e., how the economic and societal organization of the entire world impacts each one of these clusters.

Cross-national distance became a subject under analysis and increased interest, not only for fine-tuning existing institutions and ways of improving the societal organization but also for increasing corporate profitability in the realms of strategic management. In 2006, a research project named Global Leadership and Organizational Behavior Effectiveness (GLOBE) was set forth to provide "*a sound basis for conceptualizing worldwide leadership differences*" (Javidan, Dorfman, Sully de Luque & House, 2006, p. 67). Based on nine cultural attributes[4] and six dimensions of leadership profiles, the authors identified ten societal clusters around the world: Eastern Europe, Latin America, Latin Europe, Confucian Asia, Nordic Europe, Anglo Countries, Sub-Saharan Africa, Southern Asia, Germanic Europe, and the Middle East. Understanding the differences in multicultural environments and convergent views as well should enable management performance regarding cross-cultural leadership.

When the complexity of society increases, focusing on improving smaller parts of the whole becomes the way by which the human mind tries to upgrade welfare. In this particular case, the GLOBE study was conducted with the clear purpose of contributing to management improvement. The danger rests in the existence of a natural propensity towards forgetting what the bigger assumptions are, those which support the focus of our actions. We tend to look at a given specimen of trees, neglecting that the whole forest, the environment, has set its rules. The important whole is the societal and economic organization which set up the boundaries for business activity and human interactions.

Regards on the social dimension of economic activity brought the awareness of cross-national distance and the troubles that emerged for overcoming different ways of doing things, from cluster to cluster, worldwide. Berry, Guillén & Zhou (2010) proposed a set of multidimensional measures of these differences, encompassing several dimensions such as economic, financial, political, administrative, cultural, geographic, demographic and global connectedness. These authors state that "*countries differ to varying degrees in terms of the characteristics of their business systems, specifically their economic, financial, and administrative practices*" (Berry et al., 2010, p. 1463) which implies that there are underlying institutional variances from country to country. Kostova et al. (2008, p. 997) highlight that this cross-border condition "*results in diverse, non-monolithic, fragmented, and possibly conflicting sets of external environments*" which preclude the efficiency of successful business transactions. But the core of our thoughts is underpinned on the exclusive assumption that our welfare should be pursued using a profit maximization orientation. And this assumption does not change among clusters.

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[4] According to Javidan et al. (2006, p. 69), the relevant nine cultural attributes are: (1) performance orientation (the degree to which a collective encourages and rewards group members for performance improvement and excellence); (2) assertiveness (the degree to which individuals are assertive, confrontational, and aggressive in their relationships with others); (3) future orientation (the extent to which individuals engage in future-oriented behaviors such as delaying gratification, planning, and investing in the future); (4) humane orientation (the degree to which a collective encourages individuals for being fair, altruistic, generous, caring, and kind to others); (5) institutional collectivism (the degree to which organizational and societal institutional practices encourage and reward collective distribution of resources and collective action); (6) in-group collectivism (the degree to which individuals express pride, loyalty, and cohesiveness in their organizations or families); (7) gender egalitarianism (the degree to which a collective minimizes, and should minimize, gender inequality); (8) power distance (the degree to which members of a collective expect power to be distributed equally; (9) uncertainty avoidance (the degree to which a society, organization, or group relies on social norms, rules, and procedures to alleviate unpredictability of future events).

As we have seen above, improving material efficiency is but a fraction of society's welfare. The world's welfare, the state of physical and emotional well-being, is not much different from country to country, or from person to person. We all need to eat, to sleep, to dwell, and to have an inner sense of achievement, no matter the professional activity we have chosen to engage in, or the cluster we belong to. Before choosing a unit of analysis for investigation and improvement in a given tree of our forest, we must understand that the whole world, without exception, is now resting on the assumption that the economy is organized the best possible way for achieving efficiency. And that is a very strong assumption which deserves further scrutiny.

Damásio (1999)[5] distinguishes between a feeling and the awareness of having a feeling and outlines that there is no evidence that we are always aware of all our feelings, though there are many pieces of evidence suggesting that we are not. Moreover, the author states that emotions of different types and tonalities give rise to feelings, which, eventually, may trigger an image framework in our brain. When this happens, those images could signal feelings that may become an object of our awareness. Then, our superior reasoning gives rise to a set of responses, which may translate into actual behavior, and may also produce a dynamic in the opposite direction, affecting the stream of our feelings, emotions, and even our basic metabolism. As humans, improving our welfare demands taking care of the process by which a general sense of well-being is built upon. And that requires a continuous renewal of positive emotions.

Understanding our basic emotions helps to frame economic behavior. Fear is one basic emotion that enables an individual learning from the unpleasant situations lived life along (Damásio, 1999). Pain is an emotion associated with punishment, drawback, and standing still. Therefore, it is quite expectable that a person experiences pain and fear when facing a similar unpleasant situation already lived in the past. Institutional pressures are exerted by the society towards conformity, and punishment arrives when deviating behaviors from the societal norm occur. Conversely, pleasure is an emotion aligned with rewards and is associated with behaviors such as curiosity, quest and getting closer. Since a general state of joy and happiness demands a continuous renewal of pleasant emotions, the proper institutional environment for welfare improvement must provide such conditions. The economic system is a crucial part of the societal organization.

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[5] António Damásio, in his seminal work "The Feelings of What Happens" (1999), highlights the critical role of emotions in the making of reason.

Our behavior translates into a collective organization through an emotional mechanism involving both fear and greed. Perhaps, in economics thinking, this could be summed up as individual interest. Each time a member of the society forecasts an opportunity of engaging in an activity which will bring a pleasant outcome, the individual will endeavor to achieve his goal just as long as no unpleasant outcome is foreseen. When this happens, the possible benefits will be weighted with the eventual penalties that may take place, and the rational decision process will develop.

This historical review brings into perspective the role of trust for economic and societal evolution. It outlines the way that increasing dependency relationships among society's members also establishes a higher detachment between producers and consumers. This distance was null under the hunters' society. In the shepherds' society, however, a small distance between producers and consumers starts to be settled – for in the hunters' society the producer was quite always the consumer, while in the shepherds' society every member of the community was producing for the consumption of everyone else. A step further was taken with the husbandmen's society since an increasing physical separation was set between producers and consumers – wheat was produced in different fields than corn or pastures. Finally, the artificers' society has established a clear separation between producers and consumers. This separation demanded structures for product conveyance and exchange and increased the societal complexity regarding an efficient organization. This evolution was not possible without some sort of reliance and acceptance of dependency upon the work of other members of the society.

Karl Marx's analysis becomes even more interesting once he has focused on the social dependent relationships that have been established between the society's members along with the transition from the feudal society to the capitalist society. Under the author's perspective, the society must create proper institutions to ensure that dependency relationships did not translate into some sort of abusive behaviors, or even oppression, of some members of the society over others. For sure, that is mandatory because it would not be possible to develop an increased physical detachment between the places of production and the places of consumption if some sort of trust was not built up. If people were not able to trust each other somehow, then a shoemaker would never consider the possibility of focusing all his efforts building shoes instead of hunting or raising some chickens and sheep for maintaining himself and his family. Institutions play a crucial role in setting up the rules of the game in which people rely on, allowing increasing social coordination and cooperation that could not be possible otherwise.

Nonetheless, the formality required to establish these trust structures does not need to be translated into a black and white written protocol. Gulati, Nohria & Zaheer (2000, p. 209) state that "*social networks promote trust and reduce transaction costs in several ways*" and "*they can also facilitate due diligence so that each partner has greater knowledge about the other's resources and capabilities and greater confidence in their mutual assessments.*" An example of informal interfirm networks is presented by Uzzi (2002) which focused on the garment industry. He observes that, in the business world, arm's-length ties (such as those enacted by a written contract) are more frequent than close ties but less significant though for the overall business success of a company. Embedded ties, or special relationships, "*have three main components that regulate the expectations and behaviors of exchange partners: trust, fine-grained information transfer, and joint problem-solving arrangements*" (Uzzi, 2002, p. 42). For instance, a supplier may choose a different tissue when facing a break on the usually used raw material, manufacturing a slightly different final product than the one that was previously accorded with the retailer, even without announcing this change, in order to do not waste time, and ensuring that the retailer will be able to have his collection on-time throughout his wholesale network. "*Trust develops when extra effort is voluntarily given and reciprocated*" (Uzzi, 2002, p. 43), thus standing out that the exchange relationship based on trust extends time along, and does not need to have an immediate win-win transaction behind it.

This suggests that the more fundamental structure of a societal organization is security: first, physical security; then economic security[6]. Dependent relationships for the highest possible level of social coordination need a grounded solid stone made of safety. The African continent constitutes an example of such a need. In Africa, before the colonial era, there were up to ten thousand different groups, which lived under disparate ethnic and linguistic varieties, each with self-government, and, each living by their customs (George, Corbishley, Khayesi, Haas & Tihani, 2016).[7] These differences between cultures and ways of living, pose an almost insurmountable barrier, seriously hindering communication between any one of those numerous groups. Accordingly, trust is hard to build among them, and increasing each tribe's welfare by assaulting others becomes an almost natural behavior. Achieving socio-economic development under this environment becomes an incredibly difficult endeavor. Thus, a security's structure is the first step for evolving the society's organization. It must be the first formal institutional infrastructure, upon which welfare will be raised.

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[6] In this sense, economic security must be seen as a general social trust between the members of the society, in which the products that are being bought match consumers' expectations, i.e., sellers do not engage in deceptive actions.

[7] Today, in Africa, two thousand recognized languages remain actively spoken (George et al., 2016).

Building a society focused in enhancing welfare for all its members requires two ground pillars: (1) a developed communication ability which enables the society to develop positive formal and informal institutionalism for all its members; and (2) a well-established physical and emotional state of security upon which human relationships can evolve from. Regarding such a basis qualifies the society for accepting mutual dependence relationships among its members. These relationships will rely on a given institutional framework, which ends up legitimating every organizational actor's actions. None of the societies of the past has evolved through inner conflicts and, interestingly, since dependent relationships need to be underpinned on both trust and safety, we may even conclude that rather than naïve, wishing other people's well, may be a very good starting point.

By integrating these two pillars with the four criteria stated before, upon which humanity's patrimony is raised, it is possible to evaluate if a positive evolution has taken place this far. Using the material criterion, we can realize that present social cooperation enables the production of higher amounts of goods for satisfying each society member's needs. In what concerns the production of scientific knowledge, we have now an always increasing ability to produce and disclose technological knowledge, which was not possible in the feudal era. Regarding the humane facet of the society, since a man was not the owner of his workforce under the feudal society, and it was every man's will to free himself from that dependent (slavery) relationship with his landlord, we must conclude that the present society sets a better human environment than the previous one. Lastly, socially, we may rely on Marx's (1867, p. 394) remark that "*between equal rights, the force is who decides.*" Under this assumption, we may recognize that the society has evolved, from a stage where force was mainly expressed by violence, to a stage where force is expressed by the majority of the members of the society demonstrating their wishes of pursuing a given path. Thus, compared with that of the feudal society, our welfare was generally increased under the present societal organization.

This shallow analysis put up to this point allows a glimpse of the evolution of the societies over time. But recognizing the benefits of our actual society, comparing with the feudal society, does not mean a complete understanding of the different societal structures, as time goes by. The whole societal organization is a very complex system that relies on a multidimensional framework containing the economic system in it.

The literature has addressed the institutional forces – at the regulative, normative, and cognitive levels – as bounding, constraining, and empowering elements of organizational actors. Suchman (1995, p. 574) defines the concept of legitimacy as "*a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions*" and poses, accordingly, that organizational actors establish social interactions under a legitimating framework.[8]

Focusing on our societal organization, and in that of our ancestors, it is easy to realize that power and interest relationships develop among individuals based on the institutional framework faced by them. It is important to be aware that existing societal structures exert their pressures towards conformity and that only a wider awareness of its lack of effectiveness may legitimate a change. Do we have the best possible economic system for efficiently pursuing welfare? Can we reconfigure economic transactions in such a way that enables an economic dynamic starting from full employment? Do power and individual interest efficiently combine for improving society's welfare?

Summing up, the economic organization is a substantive part of a societal organization and defines how efficiently it is possible to enhance society's welfare. A few considerations are mandatory. First, the interplay between institutional and market pressures happens within a given social framework. Second, since welfare implies taking care of all the members of a society it does not make sense accepting the possibility of existing someone who cannot provide herself the human basic needs for survival. Third, because emotions drive human behavior, emotions play a significant role in explaining the rationality behind the societal organization we are living in; particularly by explaining opportunistic behavior. A thorough examination of the current economic organization requires a deep understanding of, specifically: the basis of the process of production; how human opportunistic behavior is incorporated; and, how it affects welfare.

At this point, you are fully aware that the concept of welfare extends far beyond the material threshold, and encompasses a strong emotional strand that cannot be disregarded when we are dealing with human well-being. Very important as well, you understand how human societies evolved across time and how economics became a key tool for mankind's headway. This knowledge enables you to take a look at where we are right now and glimpse at what the near future might bring. It seems to me that if we were able to come this far, then we are skillful enough to keep moving on a positive mode. And I believe this is a valuable insight.

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[8] Suchman (1995, p. 571) identifies three primary forms of legitimacy: pragmatic, based on audience self-interest; moral, based on normative approval; and cognitive, based on comprehensibility and taken-for-grantedness.

The way each person acts, either towards fulfilling self-interests or aiming at improving collective welfare, may be analyzed through the lens of opportunity. Indeed, satisfying self or collective needs requires an understanding over a set of both outer and inner circumstances to enable each person coping with the available resources to achieve a given goal. Since the state of affairs does often change, the opportunity of acting on time is paramount to successfully improve either individual or collective well-being.

The evolution of the worldwide society's structure sets the state of affairs which, in turn, gives rise to the scope of everyday human actions. Although we have just seen above the world presents ten different cultural clusters, each cluster aggregating peculiar ways of responding to a given situation, the truth is that each member of a society must seek the improvement of his welfare according to the opportunities at his disposal placed by the environment. The ability to take advantage of those opportunities lies at an individual level, yet accrues collective consequences. This mutually dependent relationship between the environment and the individual sets the ground for intelligent action.

In this sense, opportunistic behavior may be seen as the way by which a given entity acts to improve its welfare regardless of its individual nature (a person) or collective nature (a company, a business association, or a nation). Usually, the first step consists in looking at one's talents and knowledge and understanding a general sense of competence to do something – often regarded as strengths and weaknesses analysis. The second step comprehend looking at what the environment is presenting and decide if it provides what it takes to achieve the entity's goal within a given time horizon; and, also, if there exist some potential barriers which may prevent those goals from being reached – often regarded as opportunities and threats analysis (Barney, 1991). Strategic action develops through the effects of opportunistic behavior. Opportunistic behavior is thus the essence of the human being for it could not be possible to use our full resources, efficiently, without reasoning accordingly.

Individually or collectively, strategic action takes place under a given institutional framework which sets the boundaries for opportunistic behavior. This institutional framework legitimates the actions of the organizational actors as proper and acceptable through a process of legitimation (Kostova & Zaheer, 1999). Once legitimated, the consequences of those actions spill over to the entire society, setting a new playfield upon which future actions will consolidate. Hence, because these spillover effects depend upon previous actions of specific organizational actors, the mechanisms which lead opportunistic behavior are, themselves, involved in a dynamic that is not completely acknowledged by the entire society. This dynamic depends on expectations and, individually, it is not possible to be aware of the whole prospects of the members of the society. This perception's mismatch is often the cause of why strategies differ, and the human actions evolved in a detrimental way for the overall welfare.

Efficient integration of the individual motivations of all members of a society is not an easy task, though it is the complete purpose of an efficient economic system. The literature identifies the presence of a social dilemma when the members of a society must individually choose between what is best for themselves versus doing what is best for the society, being fully aware that everyone will be worse off, including herself, if each person always would act according to what is best individually (Hardin, 1968; Northcraft &Trenbrunsel, 2012). This individual dilemma often begets moral reflections. Hardin (1968, p. 1243) states that "*the population problem has no technical solution; it requires a fundamental extension of morality.*" But more than moral considerations, it is important to draw efficiency conclusions. Herein, the focus of our economic analysis lies, most of all, in explaining the process which leads human behavior to efficiently build overall welfare. Hardin (1968) considered that a man would seek to maximize his utility function, which results from the sum of a positive component (such as ending up better off individually) with a negative component (such as ending being worse off collectively). The socio-economic system sets the standards regarding economic behavior.

A natural conclusion emerges from these thoughts: opportunistic behavior acquires a positive connotation when it creates improving welfare dynamic and earns a negative connotation when it sparks a worsening welfare dynamic. For instance, when firms trust that their suppliers provide the expected raw materials at the best possible price, they do not waste resources trying to find out cheaper raw materials. If the general behavior of suppliers were as just mentioned, then all the companies would be able to reduce procurement costs, and the whole society would benefit from cheaper products. However, if one sole supplier tries to sell as dearer as she possibly can, then all her customers will look around in the market for a cheaper supplier, and the possible gain of the society vanishes. Williamson (1981, p. 551) poses that "*hierarchical organizations and associated controls are traced to the limited capacities of human actors to cope with the complexity and uncertainty with which they are confronted.*" Analyzing opportunistic behavior under these two branches becomes essential, for it determines the welfare strand in which the society is potentially engaged in.

The economic behavior deeply relies on the mechanisms of choice, for, allegedly, in an advanced society one cannot force anyone to complete a business transaction. Given this freedom framework, both, producers and consumers, choose between 'novelty' and 'reliability'. The literature identifies the existence of a duality of exploration and exploitation in rational models of choice (March, 1991). Whether the option taken by an economic agent, regarding a given identified opportunity, refers to a positive or negative opportunistic behavior, the action always depends upon an evaluation of exploring 'new opportunities' or exploiting 'old certainties'. According to March (1991, p. 72) both forms are essential for a successful evolution of the organizational models once *"effective selection among forms, routines, or practices is essential to survival, but so also is the generation of new alternative practices, particularly in a changing environment."* The exploration-exploitation trade-off does not have to be rigid since the concepts do not have to oppose each other, and may even overlap, at least partially. However, when men engage in competitive behavior for primacy, we must expect that 'exploration' would be reduced to a minimum, because it only allows the discovery of something new deserving full 'exploitation'. Therefore, an efficient economic system needs to balance this natural human behavior and drive it towards a positive opportunistic behavior, which is the one contributing to increasing overall welfare.

Economic analysis cannot be detached from its social component. There exist a bivalent connection between the way that goods and services are produced and the organizational context in which those goods and services are delivered. In this given socio-economic framework, we must expect that economic agents act toward fulfilling their 'personal' needs (where 'personal' stands for a person, a firm, or a nation, but not the entire society), and, accordingly, it is our social responsibility to enact an institutional framework which delivers overall welfare. Remarkably, despite the multitude of cultures around the world, we all live under a basic economic system which is the same everywhere.

Crucial questions on opportunistic behavior

Analyzing what type of opportunistic behavior is stimulated by our economic system provides a wider understanding of the range of values, norms, and beliefs that drive the worlds' economic actions. Particularly, the analysis enables us to realize why there is a widely accepted existence of homeless people, of unemployed people, and a deep inequality among the members of our society concerning their well-being.

Consequently, we must investigate far further a few relevant questions, namely: (1) what is the relevant time horizon upon which economic agents take decisions – behave opportunistically, whether positively or a negatively – and what sort of beliefs are impacting this relevance?; (2) what is the degree of freedom perceived by the members of society, i. e., to what extent people believe they have another option when engaging in an economic transaction – can people behave differently?; (3) what forms of positive opportunistic behavior are induced by our economic system and to what extent are they persistent?; (4) what forms of negative behavior are stimulated by our economic system and to what extent are they persistent?; (5) what is the mechanism upon which our economic system depends upon, i.e., what is the commanding process of our economic system which leads economic agents' behavior?; and (6) what socioeconomic consequences result from our current economic system which forces us to maintain the way the society is pursuing to increase overall welfare? Most of all, we aim to be fully aware of both the legitimating path for economic agents' opportunistic behavior and the consequences of that behavior.

Identifying the economic actors

Therefore, because all members of the society act either, as a seller or as a buyer, and either, as a producer or as a consumer, we need to clearly identify who are the relevant economic actors, the constituent parts of our economic system, before formally begin to investigate each of the above mentioned six questions under analysis.

The gears composing our current economic system are: (1) families; (2) firms; (3) governments; and (4) bank entities. The science defines a 'system' as a set of interdependent components, organized to effectively achieve its overall goal. Homeostasis is one chief characteristic of any system, meaning the system's capacity for keeping internal stability. Accordingly, how effectively are we reaching welfare and to what extent our economic system is stable, depends upon the interactions between the system's components.

These four gears engage in a huge number of socio-economic exchanges that impact our welfare and are driven by each organizational actor's motivation, his utility function. In this realm, the utility function is dependent upon each economic agent's motivations which, in turn, are underpinned by their opportunistic behavior. Thus, for each economic agent, there is a clear interdependency between achieving the highest possible levels of welfare (i.e. higher levels of utility) and the outcomes resulting from the opportunistic behavior engaged by the whole members of the society.

Economics differentiates the decision making-process under the guidance of utility concerns from exclusively based pricing decisions. Specifically, when our income increases by one percent there are goods which, in this instance, we increase its consumption more than proportionally. These goods are known as superior goods. Conversely, there is also a different type of goods whose consumption decreases when our income increases. Those are known as inferior goods. Finally, the goods whose consumption increases proportionally with our income increase are called normal goods. We are aware that we value concepts such as status, quality, comfort, fashion, and so many other product characteristics that comprehend a strong emotional strand. Price is just an important parcel contributing to the decision-making process but it does not close the range of analysis. Salesmen use to say that people buy emotionally while finding rational explanations for their buying decisions. This seems to be true not only at the individual level (microeconomic) but at the collective level as well (macroeconomic), since social behavior in general, and crowd behavior, in particular, is proven to be bounded by non-market variables such as culture (Hofstede, 1984, 1993), fear, and greed (Lo, 2011). Necessarily, the outcome of utility-based economic agents' decisions has consequences to overall welfare. The drivers of opportunistic behavior extend far beyond the extremes defined by a materialistic pallet. Hence, the analysis of each economic agent's actions must be driven by utility concerns.

Focusing on our economic system's four gears, it is important to note that the members of each gear perform a dual role. Indeed, everyone plays as a family, and, afterward, every person also picks a role of the firm, government, or bank entity. All members of the society act as both consumers and producers, but their motivation for engaging in positive opportunistic behavior is not equitably widespread. And that impacts the economic system's homeostasis.

When acting as a 'family' member, which everyone does, a person can only consume in exchange for selling his workforce. In this sense, even a homeless integrates the 'family' group; therefore, he consumes so little because he cannot sell his workforce. But, since each member of the society performs another role as well – depending on to whom a person sells her workforce, and at what price – the consuming behavior of the 'family' members is heterogeneous. The consumer depends upon the revenue he gets from selling his workforce and the existing heterogeneity impacts overall consumers' opportunistic behavior.[9] Research literature often considers each 'family' member as a participant of the 'household sector', a term I will use henceforward.

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[9] Throughout this entire work, I will use the pronouns he or she interchangeably with no preference of gender whatsoever.

Firms are the major actor regarding the production of goods and services for satisfying society's needs. Similarly to householders, firms are heterogeneous as well. One chief distinction among firms regards their ability to fix prices – we have firms that behave as price takers, and firms that act as price makers. This duality deeply impacts firms' stimulus to settle their opportunistic behavior preferred path.

Governments are the major producer of institutional and market conditions for economic development or overall welfare. The literature outlines the importance of institutional dynamism based on a two-dimensional framework – the formal institutional development and the infrastructure and factor market development (Hoskisson, Wright, Filatotchev & Peng, 2012). The formal institutional development refers to legal suitability and law enforcement which plays a crucial role in the development of trustful business relationships, setting rule-based transactions rather than relationship-based transactions. Infrastructure and factor market development favor firms, and relates to building better access to "*public goods (e.g. logistic, utilities, and education infrastructures) that enable them to engage in value-adding transformational activities, and subsequently increase the productivity of the existing resources and capabilities*" (Chen, Cui, Li & Rolfe, 2017, p. 215). This allows for higher rates of market liberalization. Therefore, governments have the power of setting up the rules of the game – under which householders, firms, and bank entities evolve. The way a government drives its behavior towards a positive opportunistic path is paramount for improving welfare. Governments essentially sell trust and stability.

Finally, the last component of our current economic system, the bank entity, is the gear that has the power to set the pace of the entire economic development. The banking industry sets credit allocations and constraints, which directly impact both producers and consumers, induce imbalances in the supply-demand relationship, and are of utmost relevance for understanding these entities' motivation to act in a given behaviorist strand. Bank entities essentially sell capital.

The research literature often settles economic system comparisons based on "*theoretical grounding, explicitly or implicitly, in institutional theory or at least institutional models of the environment*" (Westney, 1999, p. 67). This approach takes on the assumption that differences between the characteristics of the constituent components of an economic system give rise to categorizing specific economic systems whose capacity to generate welfare could then be scrutinized. Herein, I am adopting a holistic view, in which an economic system is a single phenomenon and is not able to be reduced. I am concerned with the inner mechanism that any economic system has for producing and distributing well-being, rather than focus on the capacity of a particular economic system (say a given cultural cluster for instance) for producing a higher level of welfare. Our conclusions regarding the above mentioned six questions should be of assistance to analyze any considered economic system worldwide.

Answering the questions on opportunistic behavior

Question number one refers to what is the relevant time horizon upon which economic agents take decisions, while question number two refers to what is the degree of freedom perceived by the members of society. Answering these two questions enables us to qualify 'opportunity' within the economic behavior concept. Peng (2002, p. 252) states that "*institutions help reduce uncertainty*" and "*strategies are about choices.*" Accordingly, it is not possible for 'families', 'firms', or 'bank entities' to make a decision based on a longer temporal horizon when the institutional framework is unstable since it will be difficult to ascertain the outcome of such a decision. In this case, economic progress is compromised because selecting potentially successful strategies will be demanding when facing higher levels of perceived uncertainty. Murtha & Lenway (1994, p. 124) highlight the role of economic instability in managers' decision processes. The authors compare the pro-market transition engaged by both China and the former communist countries. Although China "*introduced economic reforms while adhering to authoritarianism, enjoyed double digit economic growth,*" there remained the evidence of instability in the former communist countries which inhibited firms' long-run decisions by inducing a waiting period "*until new institutional arrangements take shape.*" Hence short-run strategies become a norm under insufficient institutional development, and the temporal horizon qualifies as one first constraint regarding the degree of freedom that economic agents may dispose of.

Involuntary unemployment and legal labor rigidities are examples of two more losses of 'degree of freedom.' The existence of involuntary unemployment induces employed persons to remain in their actual jobs even when they are not especially talented for their function. In this instance, people are afraid of being unable to find a new job if they eventually needed to. Legal labor rigidities may inhibit firms from contracting additional employees because the accrued social liabilities may become unbearable liabilities in an uncertain future. If people identify these consequential paths, their actions will be grounded in this sort of belief. Grosso & Smith (2012, p. 83) outline how the society can be the victim of its self-imposed vicious cycles by posing an instance where *"employers may be reluctant to recruit people with a long period of unsuccessful job search, and the unemployed themselves become de-motivated."* Therefore, people's decision-making process is simultaneously dependent upon the time horizon set by the economic environment and the available scope for the deployment of individual actions. Governments must work out these parameters. But inducing positive opportunistic behavior by setting up direct measures is a quite difficult task for any government since people's expectations do not change in a blink of an eye. There remains no doubt that a more stable and developed formal institutional environment, with both adequate infrastructure and factor market development, increase economic agents' opportunities, widening the range of opportunities time along (Murtha & Lenway, 1994).

Question number three asks what forms of positive opportunistic behavior are induced by our economic system and to what extent are they persistent? The answer requires a clear slashing between the four economic agents under analysis.

The first part of the question is quite straightforward. Mainly, household members behave towards welfare improvement, individually and collectively, when consuming, when laboring (producing goods and services), when acquiring further capabilities, and when being helpful for the overall community. These actions likely produce an increase in both the person's well-being and society's welfare. Firms take a positive opportunistic behave each time they seek new products for satisfying society's identified needs, when they produce wanted goods and services, when they seek to lower their production costs, and when they create new jobs. Governments increase welfare mainly by reducing economic agents' uncertainty as much as possible, by drawing an appropriate formal institutional environment, and by building infrastructures for increasing education, health care, and law enforcement – i.e. fostering market supporting activities (Peng, 2002; Hernández & Nieto, 2015). Banking entities contribute to welfare creation mostly through the creation of capital – money creation – providing entrepreneurs with the purchasing power needed for deploying new productive units (Schumpeter, 1934). These new endeavors increase overall welfare by creating new jobs and producing new goods and services.

To what extent do these positive opportunistic behavior are persistent, is a completely different matter. There is a variety of interactions between economic agents. These interactions often lead the positive opportunistic behavior from one economic agent to spark a negative opportunistic behavior from another. For instance, wider credit availability from bank entities leads firms to increase investment, and result in increased competition among firms. This competitive surge leads to lower selling prices and reduces firms' investment propensity. These are dynamic processes evolving in a given time frame. However, in some circumstances, one curious remark is that negative opportunistic behavior might be unavoidable.

Question number four asks what forms of negative opportunistic behavior are induced by our economic system and to what extent are they persistent? There are several negative opportunistic behaviors we can easily identify for each of the four economic agents. Householders might engage in social loafing practices [10] and laziness, and consistently lacking attitudes of effort and commitment. Firms might overexploit employees, forcing them to work more hours under the same, or lower, wage. Also, firms might adulterate their products, acting deceptively towards consumers (Marx, 1867). Sometimes, firms extend these actions toward investors or fiscal authorities by practicing earnings manipulation (Beneish, 1999; Gao, 2013). Firms might even raise barriers to prevent other firms from entering the market, act in a cartel, and endeavor in several other monopolistic practices, which are known as non-market capabilities, and often occur in less developed, or weak, institutional environments (Estrin, Meyer, Nielsen & Nielsen, 2016). Lastly, firms might engage in lobbying practices trying to reach government legal influences that favor them in detriment of other economic agents. Governments, in turn, might be prone to corruption practices, and also deliberately disregard institutional and infrastructure improvements. Banking entities might reduce credit limits, and, additionally decrease the amount of available money as well. Unfortunately, while positive opportunistic behavior may lead to negative opportunistic behavior, the inverse is rarely true, i.e. negative opportunistic behavior strongly begets more negative opportunistic behavior, and does not enable positive behavior at all.

The literature outlines that positive opportunistic behavior seems to overcome negative behavior. For instance, addressing the theme of corruption in Africa, Abotsi & Iyavarakul (2015, p. 264) find out *"that pervasive corruption has a larger negative influence on FDI* [foreign direct investment] *in transition economies, while arbitrary corruption has a lower negative influence on FDI,"* confirming that it exists a threshold for the level of corruption (negative opportunistic behavior) that is tolerable and superseded by firms' investment efforts (positive opportunistic behavior). Moreover, these authors concluded that investors may prefer growing economies to large economies because investors are motivated to exploit identified profitable opportunities.

Hence, it seems that positive opportunistic behavior lasts longer. However, because humans are aware of how easy it is to engage in negative opportunistic behavior, and abhor some of its consequences, the theory identifies an economic system's additional element of perturbation: the nonmarket player (Markman, Waldron & Panagopoulos, 2016). These are activists, environmentalists, social entrepreneurs, and other non-governmental organizations which engage in hostile activities towards specific economic agents, usually defending a given behavioristic ideal. These nonmarket players loom from the whole society and do not have to be fitted into just one of the above-identified four gears of the current economic system. Usually, the resulting open conflict action towards a professedly negative behavior is driven by a positive intention whatsoever, thus suggesting that the society strives to limit negative opportunistic behavior as much as possible.

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[10] See Earley (1989) for a very interesting discussion about social loafing analyzed through the lens of cultural standards: individualism versus collectivism.

This rather theoretical explanation has tremendous practical implications. Khanna & Palepu (2000) outline that countries with poorly functioning institutions lead to severe agency and information issues. An agency problem arises when someone (the 'agent') can act in his interest, even at the expense of the entity he was supposed to act on behalf of (the 'principal'). This sort of negative opportunistic behavior happens in several different frames, such as a firm's shareholder-manager relationship, a nation's voter-politician relationship, and a financial lender-borrower relationship. There is no doubt that the resulting outcome of these relationships must be positive to the principal for the relationship to hold on. Nonetheless, all these three forms of negative opportunistic behavior may have an impact on employment creation, being the latter a very strong determinant, conditioning the establishment of new business opportunities.

Particularly, in this latter case, because the borrower (acting as the agent) has privileged information regarding its own business, which the lender (acting as the principal) has not, the lender does not know if the borrower will fulfill its obligations as arranged, for "*when borrowers have little wealth to contribute to project financing, the potential divergence of interests between the borrower and the suppliers of external funds is greater*" (Bernanke, Gertler & Gilchrist, 1999, p. 1345). Therefore, banks' lending practices regard agency costs by demanding collaterals and/or larger interest rates when deploying financial operations.

Opportunistic behavior presents a dynamic of interactions between economic agents which impacts employment levels and overall welfare. Clearly, under the current economic system, those who possess more resources are easily entitled to both explore 'new opportunities' and exploit 'old certainties' (March, 1991). Coco Chanel (Gabrielle Bonheur Chanel), the founder of Chanel SA, the famous haute couture and perfumery company, constitutes a live example of the economic consequences of this behavioristic dynamic. Despite her talent regarding fashion and garment design, Coco Chanel did not have any money to start a business; albeit all she wanted was to have the opportunity to do so. She did start her business, but that only happened because she met a British millionaire who became her lover and, afterward, lent her the money she needed to start her own business. The existing dynamic through which economic agents express their opportunistic behavior leads to opportunity losses – such as this one would have been if the millionaire did not come up in Coco's life.

Summing up, negative opportunistic behavior seems to persist whenever the institutional surroundings allow individual interests to overcome collective welfare.

Our last questions are: (5) what is the mechanism upon which our economic system depends upon, i.e., what is the commanding process of our economic system which leads economic agents' behavior?; and (6) what socioeconomic consequences result from our current economic system which forces us to maintain the way the society pursues seeking welfare improvement? Answering these questions will enhance our understanding of the way opportunism determines the intensity of our welfare production through the four gears of our economic engine.

Opportunism emerges as one human precious capacity which has enabled the society to move forward this far. In Part I, we have seen that human societies have evolved across time, managing to perform internal rearrangements according to circumstances. We have glimpsed at the world as it was, and are now focusing on the world as it is. At this point, the extent to which positive opportunism expresses itself is what we may realize as the pace of progress. Opportunism is an attribute of men, ever used to improve society's welfare.

Since the very first beginnings, progress has taken place over time grounding on different societal organizations, which pursued their welfare improvement resorting to many different mechanisms – as we have seen. Therefore, the mechanism by which the feudal society sought welfare is not the same we are using at the moment. The feudal society depended upon a wider number of laborers whose work allowed the maintenance of the basic survival conditions of the entire society. Production and consumption were restricted to a very narrow region because the means for product conveyance were sketchy. Exchanges took place based on both parties' common needs. A strong hierarchical dependence among men emerged as the mechanism for ensuring everyone's survival, and the exercise of opportunism was thus strictly constrained. The society that could produce more goods was the wealthiest in the world.

Conversely, our current society presents a man that is supposed to be free to both sell his workforce and use opportunism to satisfy his own private needs. Exchanges between the produce of each person's labor no longer take place based on common needs. Now, more than ever, the product resulting from a single man's labor no longer has a direct correspondence with the resulting outcome of that of another person. Today, what enables a person to improve her welfare is the mechanism of profit maximization, since we use the money to buy all the goods and services we need to fulfill our physical and emotional needs. Thus, the wealthiest society, the one who exhibits the highest welfare patterns, is the most profitable society. The wealthiest society can sell dearer what it produces and buy cheaper what is produced by others. Hoarding became the behavioristic commanding process.

When considering the most basic needs of a human being, survival emerges as the priority. Following Adam Smith guidelines, we may state that every ancient human society could be characterized by the way the most basic wants of feeding and dwelling were satisfied. At those ancient times, the whole society was employed and contributing to overall welfare. Nowadays, under our economic system, society no longer can ensure that a man produces what he needs to fulfill his basic needs. Our profit maximization based economy has socioeconomic behavioristic consequences for overall employment level and compromises some individuals' survival.

In a glance, our economic system is set up as follows: firms are the entitled producers of every good and service the society may want, and householders are the consumers of the goods and services produced by firms; while governments and bank entities are the facilitators of the whole process of matching producers and consumers. Employment is now closely related to a man's ability of being useful to the society, either by taking part on the productive process or by contributing as a facilitator to the encounter between consumers and producers, because, supposedly, only when a man is useful to the society he is able to earn the right to fulfill his physical and emotional needs. Accordingly, opportunistic behavior, whether positive or negative, is mostly driven by this everyone's imperious need of ensuring one's employment within our current economic system.

Emotions play a crucial role in setting up economic opportunistic behavior. Fear sets the pace when it comes to making sure that a person's survival basic needs are fulfilled. This kind of emotion leads economic agents to act defensively towards the maintenance of their already acquired consuming capacity. Entrepreneurs and employees (either employed in firms, government or bank entities), they all strive to improve, or at least maintain, their welfare; meaning that entrepreneurs will act under a profit maximization driven behavior, and employees will act seeking to maximize their wage as much as possible. Moreover, interactions between entrepreneurs are also relevant since the entrepreneur's profit often decreases with the entrance of a competitor in the market. The new entrant needs to lower the price of its products to conquer a share of the market, thus diminishing each firm's profit. Employees, in turn, need to keep their job and their real wages to be able to keep their living standards. Therefore, entrepreneurs fear the entrance of new entrepreneurs in the market, and this feeling is shared with their employees. However, employees fear to lose both, their job and their real wage. Hence, employees do not want to be fire, and also do not allow any decrease in their absolute wage, for it might mean a loss in their ability to satisfy their own physical and emotional needs. Prices, wages, and employment levels become the essential variables of any economy, though controlled by emotional reactions.

Branson (1979) states that enacting constraints in the markets leads to a condition of 'minimum,' i.e. the traded quantity is the lowest of either actual supply or actual demand. For instance, if employees do not allow wages to decrease when firms are not affording their workforce costs – actual labor demand is, therefore, lower at the same labor price – then the firms' adjustment will be made by diminishing the working hours (the minimum quantity between actual demand and actual supply in the labor market). Considering space 'wage-working hours', the author identified several dynamic situations of market inefficient resource allocation resulting from the existence of constraints in both the labor market and the markets of goods and services. Overall, our profit-driven economic system leads to an inefficient resource allocation because of the existence of market constraints.

Market constraints seem to be unavoidable. Market constraints stem from firms, by preventing the entrance of competitors in the market as much as possible, and loom from employees as well, since employees prevent wages from adjusting downward. Also, market constraints stem from emotional settings. However, there are also governmental constraints, imposed by legal and fiscal policies, and financial constraints imposed by credit limits and interest rate policies. Economic literature acknowledges this reality and tries to deal with it by seeking the most effective ways of fixing these inefficiencies at sight. For instance, in a very recent study, Farhi and Werning (2016, p. 1645) developed an interesting theory of monetary policy and macro-prudential interventions in financial markets focusing "*on economies with nominal rigidities in goods and labor markets and subject to constraints on monetary policy.*" However, these attempts will always face *ex ante* difficulties timing the intervention, and *ex post* distress evaluating its effectiveness. Overall, we live in a world full of constraints which foster economic inefficiencies, decrease economic agents' degrees of freedom, and preclude welfare improvement.

All in all, understanding the impact of opportunism on our daily actions allows us to consider the importance of building the proper institutions which may provide safe guidelines for human behavior. In this realm, the utmost use of this knowledge lies in the increased ability the rulers will get for fostering positive opportunistic behavior from the whole society. This knowledge highlights how the impact of negative opportunistic behavior hinders economic development.

Under our current economic system, changing towards ensuring full employment poses tremendous stress on economic agents. Firms do not wish to contract any more employees since at current labor price they are already managing resources for maximizing their profits. Employees do not allow wages to decrease, thus inhibiting the creation of a room for firms to contract additional workers. Governments do not enact legislation in either direction because that would mean several, and adverse, political consequences. Naturally, we remain under a quite permanent, and unavoidable, involuntary unemployment reality.

How opportunism impacts our welfare

It is interesting to compare our present situation to that of the feudal society. In the feudal society, production was resulting from the common efforts of the laborers working under the central authority of a landlord. Therefore, there was a central planning economic activity, with one decision center taking all the decisions regarding income production and distribution issues. Now, we are not under a central planning driven economy, but we may say that we can identify several decision centers, which compete with one another, acting in such a way that prevents efficient decisions from being taken regarding income production and distribution issues. We have evolved to a situation where economic agents may choose, up to a given degree of freedom, what to produce, and how to produce and distribute production; yet still constrained. Hence, we are living in what is called an economic system of 'feudal capitalism'.

I have just scratched the surface of the consequences caused by emotional interactions between economic agents. Williamson (2007), framing transaction costs theory within organization theory,[11] considered that human actors are boundedly rational since they lack hyper rationality, yet they are not irrational either. Lo (2011, p. 642) poses "*what, then, is the source of irrationality, if not emotion?*" and considers that "*market equilibrium requires a rather sophisticated theory of mind, and presumably a high level of abstract thought*" (Lo, 2011, p. 646). Opportunism seems to be the welcome result of our rationality trying to satisfy our physical and emotional needs – or, sometimes, maybe is simply the outcome of our emotions left loose.

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[11] Oliver Williamson is an American economist, Nobel Prize in Economics in 2009.

Before delving into the mechanics of our economic system, it is important to qualify how opportunistic behavior impacts our welfare. Specifically, this reflection enables us to number four refutable propositions: (1) circumstances dictate societal organization; (2) societal organization dictates economic efficiency achievements; (3) economic efficiency depends upon stimulating positive opportunistic behavior as much as possible; and (4) opportunistic behavior depends upon the available degrees of freedom for exploring 'new opportunities' and exploiting 'old certainties'.

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Every society has always struggled to find ways of improving overall welfare. Economics has theoretically evolved through a mixture of goals and concepts, becoming a social science, from which everyone expects being able to explain how the world works; therefore presenting the proper solutions for setting up an increasing welfare path.

Some research literature argues that this sort of explanation should be organized around mechanisms rather than theories, focusing on smaller parts of the whole for enhancing headway effectiveness (Williamson, 2007). Herein, I am now following this advice, seeking to highlight the interplay between essential economic mechanisms and what are the related assumptions upon which existing theories were drawn upon. First, I will address the notions of productivity and value creation, relating them with employment and welfare. Second, I will explain what role the market plays for economic development and how is this role affected by the division of labor and specialization practices. Third, I will put forward the essence of macroeconomic dynamics, outlining the role of opportunistic behavior and explaining what is a market-based economy – relating the concepts of production, consumption, investment, savings, wages, and profits, while introducing the function of money for economic development as well. Fourth, I will advance a deeper explanation of the chief economic theories, outlining their assumptions and complementarities, enhancing further mental integration of the overall economic process. Fifth, I will deeply explore the role of the financial system for the homeostasis of the whole economic system. Sixth, and lastly, I will analyze the dynamics ingrained in both the Great Depression and the Great Recession for an accrued understanding of the overall process of economic ongoing and economic setback. Throughout these six steps, I aim at providing the reader with an autonomous ability to think about economic events, objectively, and free from outer influences.

Productivity and value creation

Our journey begins with analyzing what productivity and value are all about.

Productivity and value are two distinct concepts. In the realm of economics, the concepts are related to one another, since it is not possible to increase well-being by raising the production of something that has no value. However, when considering that economics aims at overall improvement (i.e. enhancing society's welfare as a whole), being able to understand for whom are productivity gains building up, gathers additional relevance.

Value is one indefinite measure, which easily allows ranking a wide range of objects (or events) according to individual perception of well-being, but hardly receives the same grade by two different persons. Often, even the same single person, in different moments in time or circumstances, may attribute different monetary value to the same specific benefit. For instance, a person may consider more valuable having a glass of water in the summertime than in wintertime. In this sense, 'value' may be conceptualized in terms of an individual's utility measure. But Smith (1776, p. 32) states that "*the word value has two different meanings, and sometimes expresses the utility of some particular object, and sometimes the power of purchasing other goods which the possession of that object conveys*." Building a strong perception of what value really means becomes troublesome, since the 'value in use' (i.e. the utility of some particular object) changes according to the utility it provides, and the 'value in exchange' changes according to the utility of the objects toward which an individual is targeting the purchasing of. Moreover, the concept of value changes according to the focal interest of the relevant economic agent. For instance, Madhok (1997) argues that the concept of value is directly related to the potential rent-generating ability of an asset or know-how. Therefore, the author establishes a solid relationship between value and revenue within a firm's framework. Hence, identifying when the society is producing value, contributing to overall welfare, is not a straightforward task as it may seem so.

A closer look at Adam Smith's concepts of 'value in use' and 'value in exchange' allows to step up into the conclusion that higher levels of individual utility ('value in use') are the ultimate meaning of value, for the 'value in exchange' can only translate into a distinguished well-being after the individual actually purchases the object of his desire (thus being able to use it). This idea was further consolidated by Ricardo (1817, p. 276) arguing that "*if riches consist in necessaries and enjoyments, then they cannot be increased by a diminution of quantity*," and addressing the individual's satisfaction of physical and emotional needs through consumption.

Marx (1867), notably, was the first economist who was able to conceptualize value in such a way that plainly enables us to understand when the processes of 'value creation' and 'value destruction' are taking place. The author focused on the way by which a transaction of commodities befalls. Specifically, Marx (1867) has set up a simple notation *C-M-C* for explaining the process. An individual in possession of a commodity, first *C*, exchanges it with another person for a different commodity, the second *C*. Money, the *M*, is just used as a circulating vehicle. Therefore, the 'value in exchange' of those two commodities is even. However, the exchange brings value to the community. For instance, consider producer *1*, in possession of commodity *C1*, which she has produced in quantities that overcome their own needs; and consider producer *2*, in possession of commodity *C2*, which he too has produced in quantities beyond his needs. Say that *C1* is milk and *C2* is bread. For producer *1* has more milk than she needs, she is willing to exchange some of its excess for bread. The same thing is happening with producer *2* regarding the surplus of bread. Therefore, by exchanging the surpluses of milk and bread, overall welfare increases: producer *1* exchanges the useless additional milk she has in excess for the useful bread she needs, though having none. Similar thinking applies to producer *2* accordingly. Value is created because useless surpluses become useful consumed products through the exchange mechanism.

At this point, a few interesting remarks must be made: (1) value creation has nothing to do with money; (2) laboring is the way for producing overall welfare; (3) too much productivity is unproductive – all demanding further explanations.

As Marx (1867) put it, albeit the process of exchange is based on exchanging *C1* for *C2*, money is used as a facilitator. Hence, the exchange mechanism is split into two separate forms: a sale, with the notation *C-M*; and purchase, with the notation *M-C*. The entire formal exchange mechanism is thus *C-M-C*, where money acts as a mere transaction mediator. The exchange *C-M-C* makes sense because it increases the overall welfare of society. In this transactional process, money is used just to settle the relative utility of the commodities according to each society's member evaluation, and a good's final use happens where it is most needed.

Conversely, rather than what occurs with the *C-M-C* process, the *M-C-M* process presents a completely different contribution to overall welfare. Marx (1867) outlines that the *M-C-M* process does not make social sense, for it means exchanging money for money. In this format, the commodity is acting as a mediator of the money transaction. If a member of the society has $100.00 and wishes to exchange it for another amount in money, it only makes sense to do it in exchange for a higher amount, say $ 110.00. Therefore the $10.00 gain of one member of the society will have a correspondent loss of the other member of the society. Overall welfare is either equal or decreased, but certainly cannot be improved through the *M-C-M* process.

Since we can surely conclude that overall welfare is produced through the *C-M-C* process, each member of the society needs to produce something useful for the community, exceeding their own needs, to exchange those surpluses with the other members. Only by laboring (i.e. producing something useful to others) it is possible to contribute to the overall welfare. This production may be directed towards fulfilling either physical or emotional needs, but its utility ceases when the satisfaction of those needs is reached.

When, by laboring, the society can satisfy all its members regarding a given need, say feeding, then producing food beyond the threshold of satisfaction is unproductive. In this case, not only the society is wasting resources producing something useless, but also is losing the opportunity of engaging in an alternative production of something appreciated by the community. Smith (1776, p. 61) argues that *"it is the interest of all those who employ their land, labour, or stock, in bringing any commodity to market, that the quantity never should exceed the effectual demand; and it is the interest of all other people that it never should be fall short of that demand*." Therefore, producing beyond the threshold of satisfaction is a process of value destruction.

The emerging peculiarities of the separation between the concepts of 'value in use' and 'value in exchange' give rise to conflictual discussions. In society, people often intertwine the concepts of value, in pricing terms ('value in exchange'), with the concept of value, in utility terms ('value in use'), ending up arguing that something rare is more valuable; and claiming that it is possible to increase the value of a good by reducing its quantity. If something is useful to society, then it satisfies either physical or emotional needs (or both). The number of needs that can be satisfied by consuming that good surely will not increase by decreasing its available quantity. Therefore, reducing the quantity of a rare product cannot increase overall welfare. However, if someone has the opportunity of controlling the available quantity of a wanted good below the threshold of the society's satisfaction, he may require higher exchange rates; therefore, pricing dearer his product and accruing gains at the expense of others. In this instance, there is no contribution to overall welfare.

Productivity looms as another focal point of misunderstandings within the economics domain because the perspective of value is mistakenly oriented towards 'value in exchange.' When wearing a firm's shoes, we may gather a very specific definition of productivity. It is the firm's interest to sell its products as dearer as possible, while keeping their costs as low as possible, thus maximizing its profits. Wearing a firm's shoes, we can say that our firm is productive according to the amount of profit it realizes using the available resources. However, when evaluating the contribution of the firm for the whole society in welfare terms, the firm's contribution remains unclear. There is no doubt the firm is giving a positive contribution to welfare improvement, for it could not be selling anything otherwise; but it remains hazy if the society is being as productive as it can be.

Since we behave opportunistically, every producer will try to extract as much as possible of 'value in exchange' because that sets his way for acquiring the necessaries and luxuries he aims at – his way of satisfying as much as possible of his physical and emotional needs. But the overall society only will be as productive as possible when the needs that are satisfied by that particular good (or service) are completely satisfied. So that means, for a scarce product satisfying a want, that every firm producing that good is delivering it in such quantities that the price paid by the consumers is just enough to match producer costs, i.e. making profits equal to zero. Therefore, the society will increase productivity through the entrance of firms in the market which, in turn, increases the available quantities of needed goods and services. Productivity, seen by the lens of a firm, is measured using a ratio such as a 'profit/cost of production' relationship; while productivity, seen by the lens of the overall society, is measured considering the availability of goods and services for satisfying physical and emotional needs of the whole society. The former focuses 'value in exchange' while the latter focuses 'value in use.' 'Value in use' is the only productivity measure relevant regarding overall welfare.

Economic development is connected to improving productivity. Therefore, when thinking in terms of producing more of the goods and services which the society needs, we are increasing productivity every time it is possible to find a way of increasing the quantities of those goods and services while using the same resources to do so. But, *ceteris paribus*,[12] that usually means that firms' profits must decrease until reaching zero.

Another different notion of productivity can be reached by wearing a laborer's shoes. To an employee, it is more productive to work fewer hours while receiving the same wage. Smith (1776, p. 15) tells a very illustrative story about the behavior of a boy laboring with a steam engine:

> "*In the first fire engines, a boy was constantly employed to open and shut alternately the communication between the boiler and the cylinder, according as the piston either ascended or descended. One of those boys, who loved to play with his companions, observed that, by tying a string from the handle of the valve which opened this communication to another part of the machine, the valve would open and shut without his assistance, and leave him at liberty to divert himself with his play-fellows. One of the greatest improvements that have been made upon this machine, since it was first invented, was in this manner the discovery of a boy who wanted to save his own labour*."

Opportunistic behavior is the booster spring that pulls our creativity through.

Productivity is thus a measure of value creation towards a society's members. Value creation, when biased towards a firm's interest, tends to be measured according to profit standards; while when biased according to a laborer's interest, tends to be measured according to fewer laboring hours – or leisure time. All in all, society is productive, and welfare improves when society does what it takes for having all their members' physical and emotional needs satisfied. And that requires the highest possible level of social cooperation.

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[12] That is, keeping everything else equal – for instance, the same number of employees, with the same wages, and the same costs of every raw material employed for the production of those goods and services.

According to Sousa (1988) quantifying 'social utility' would be troublesome for drawing scientific economic models because, allegedly, 'social utility' hardly accepts setting up a criterion enabling economists to qualify a given situation as being better compared to a different one – because tastes and preferences change, and what is best for an individual might be worst for another member of the society. Refusing to step in marshy ground, economists usually adopt a more straightforward and rational way of thinking about improving overall welfare and set up economic models focusing on continuously increase efficiency regarding the production of goods. The procedure lies in the assumption that higher quantities of available goods should translate into higher levels of well-being for the whole society.

Under this assumption, productivity became reduced to a measure of firms' efficiency while producing goods. Theoretically, it is assumed that the relevant production function depends upon two main variables: capital and labor. Capital and labor are the two production factors widely considered in both microeconomics and macroeconomics modeling.[13] Capital is thus treated like everything else that is needed for producing a social good which is not labor hours. In this theoretical realm, firms will be economically efficient if they increase the use of the least expensive factor, detrimentally to the more expensive factor, while considering comparative productivities. Therefore, firms should exchange the labor of a man (or men) for a machine if that allows an increase in profitability. So, *ceteris paribus*, the available quantities of those goods will increase for the society's rejoicing, supposedly resulting in a significant contribution to overall welfare. Under our current economic system, and mainly because of the existence of an over-focus on the consumption of goods, the society ended up disregarding the disutility (the loss of utility, or welfare loss) created when people lose their jobs. Economists are aware of this utility loss but have not yet been able to weight it against the utility gain coming from having more products available at a lower price.

By analyzing the concepts of value and productivity, we are now in a position to understand what the markets can do for our welfare improvement.

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[13] See, among many others, Jorgenson (1967), Branson (1979), Sousa (1988), Bernanke et al. (1999).

Market's role

First of all, it is important to realize that the existence of markets and the existence of a capitalist society are two separate things. The market is a space of encounter between two parties which enables an exchange of goods and services between them. Therefore, the market is a space of value creation since it enables the exchange of surpluses between producers, according to the *C-M-C* rule we have seen above. But the market, under the capitalist society, gives us three more significant contributions to welfare improvement. The market, under the capitalist society, contributes for our welfare because: (1) the market fosters value creation by providing an exchange space for 'value in use;' (2) the market directs producers and consumers decision process towards efficiency; (3) the market enables productivity increases (in the firms' sense); and (4) only the market enables to elicit the benefit of diversity. The latter three points gather additional meaning when money starts to be used as capital, and have an intertwined relationship with employment.

When thinking about the mechanics by which the market directs producers and consumers' decision process towards efficiency, it is widely accepted that price is the main driver. Indeed, the price mechanism is the main player directing economic agents' actions; yet it is not true that price is always acting on behalf of society's best interests. Moreover, usually, there remains to be clearly understood how prices affect differently producers and consumers.

When, on August 5, 2010, the thirty-three Chilean miners got trapped underground at the Copiapó accident already mentioned in the Preamble, they had food for only three days. When they reached the food chest, the immediate reaction of some miners was to take the food themselves, and eat it right away, or hide it just for them. The miners struggled among them, and, finally, they all agreed to elect one of them responsible for the food chest key. From that moment on, they rationed available food to as little as possible, to a bearable minimum which would be able to keep them alive, such as a daily meal made of one small centiliter of milk for each, and one can of tuna split for everybody. The price of the food inside the mine went up to such an exorbitance that they all could only afford a very little small piece of food a day. And that was exactly what enabled them to survive.

Smith (1776) refers to the action of price upon the general public as an automatic way of preventing famines. If corn is produced in smaller quantities than what is wanted by the general public due to a bad harvest, then the producer will sell it at higher prices, and that will serve the best interests of the whole society. For the producers, it enables recovering their production costs, whilst, for the general public, it induces diminishing the consumption of corn, allowing all community to survive until the next harvest. When society does not act so, then someone is going to feel the famine, someone might even die, and, in the worst-case scenario, all thirty-three miners could have died had they not carefully raised the price of food inside the refuge, where they stood.

Apart from the last case scenario, which, despite dramatic, is still absolutely relevant, the usual role of price, by directing consumers' actions, is paramount for society's welfare. Higher priced products will be eschewed if it is possible to replace their consumption by a similar good (regarding its utility – often seen as a substitute good). Also, consumed quantities of a higher priced product will usually be diminished, allowing its wider distribution among the society. Since, in our society, we usually benefit from the existence of several producers of a given commodity, then the price information received by the general public will be the driver of their actions towards the consuming pattern that serves the community's best interests regarding overall welfare.

The role of price information, concerning producers, takes a completely different character. Regarding the firms' framework, the higher the selling price of a product, the most profitable is the business. Accordingly, firms will be prone to increase production since, at that price, there is significant unsatisfied demand. By increasing the produced quantity of this wanted product, firms will act according to what is best for consumers. While higher product prices induce firms to produce more, they also induce consumers to consume less, fostering a natural adjustment in quantities that suits overall interest.

The price mechanics induces consumers and producers to adapt their patterns of consumption and production according to society's overall best interests. The price mechanism fosters general positive opportunistic behavior.

However, because pricing is a tool that drives human economic behavior, aiming at arbitrarily controlling the price mechanism creates imbalances that cannot serve the community's best interest. When someone can control a product final price, negative opportunistic behavior (a behavior that enables an individual to improve his welfare, albeit being aware that he will be worse off if the entire society also takes such actions) might loom. It is the opportunistic behavior of the monopolist, which reduces the produced quantities for selling dearer, upon which all the economists spoke against, and that Smith (1776, p. 100) alerted for the extent of this behavior in the whole economy, by stating: "*in every different branch, the oppression of the poor must establish the monopoly of the rich, who, by engrossing the whole trade to themselves, will be able to make very large profits*."

By the same token, although not usually claimed as a sin, setting upper price limits cannot serve society's best interest, since it would mean that the miners could have eaten a lot more food than they did and, as we have seen, the consequences might be pernicious. Moreover, pricing misleads as such, usually performed by central planning governments, divert firms' investments from where they are most needed, at the suffering expenses of the whole society. All in all, the well-being of humankind is improved if we let the markets play their role freely through the price mechanism, channeling production and consumption according to the most efficient use of the available resources.

The price mechanism exerts its action because we use the money to perform exchanges using buy-sell transactions. Marx (1867) considered that money was used as money when used as a mediator between a commodity's transaction – e.g. the *C-M-C* process – and that money was used as capital when money was used to beget money – e.g. the *M-C-M* process. This is a very important distinctiveness because, looking at what happens when using money as capital, like in the *M-C-M* process, we conclude that money is used as capital when it is used for deploying the means of production. By using an initial quantity of money setting up a factory (for instance), the entrepreneur aims at producing a given commodity, *C*, which will be produced to be sold in the future, returning *M**, where, desirably, *M** is greater than *M* to enable the entrepreneur to secure a business profit; and the process will be more like *M-C-M** (Marx, 1867). Money can only be used as capital under the existence of markets. Using money this way wide opens a window for positive opportunistic behavior to take place, impacting both the employment level and the society's overall welfare (Schumpeter, 1934).

It is very important to fully realize the relationship between value creation, productivity, employment, and how money becomes a key tool. At this point, you fully understand that the creation of value occurs when people can exchange their useless surpluses by the useful surpluses of someone else. Additionally, you are starting to consolidate your awareness of how employing people in productive activities impacts overall welfare. Furthermore, it is easy for you to conceptualizing money as the tool we use as a facilitator of those trading activities. These ideas put into perspective the importance of money for welfare consolidation.

Impact of division of labor and specialization practices

The capability that entrepreneurs have for using money as capital enables overall productivity increases by two different processes: (1) labor division; and (2) specialization. First, the labor division consists of splitting a given task by more than one laborer. It is accepted that exhaustion makes it productive to split the work of one person between two or more individuals, enabling a higher total final production than it would happen if the work was to be performed by one person only. Second, specialization refers to employing different persons in completely different tasks, in such a way that each one of them will become the best performer in his task. Adam Smith (1776, p. 10) gives the example of a pin-maker that divide the whole range of tasks into a number of branches in which "*one man draws out the wire; another straits it; a third cuts it; a fourth points it; a fifth grinds it at the top for receiving the head* (…)" and so on. By specializing in a given task and coordinating the production of a pin through several men, the pin-maker increases significantly the final product quantities by the end of the day. Specialization occurs not only within a factory but also in the society's realm.

The society's welfare is improved by the fairy touch of social cooperation. Men increase productivity through social cooperation. Each man will focus his labor force – knowledge and skills – to produce what he does best, aiming at producing it in excess beyond his own needs. In a small village, we may find butchers, bakers, grocers, and tailors, each one of them doing what they do best, at enough quantities for satisfying the whole society through economic transactions among the village members. When the scope of economic activities extends, the benefits extend as well.

Nonetheless, Smith (1776) outlined one important caveat regarding the limits of the division of labor and specialization.[14] The author poses that the division of labor and specialization depends upon the dimension of the market. If the village is composed of a single-family, a couple and two little kids, they will have to prepare themselves their meat, bread, sausages, and clothes, since they will not have anyone else to engage in an exchange process. Also, if the market is too small, being able to significantly increase productivity does not worth much for the pin-maker, since he will not be able to sell his surpluses. Having a higher number of people available to engage in economic activities is advantageous for society. Hence, gathering the benefits brought by the processes of both, division of labor and specialization, finds boundaries in the dimension of the available market.

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[14] The literature does not always outline the distinction between the division of labor and specialization (nor Adam Smith did) and often treats both concepts as one. However, they are not the same thing. Productivity gains obtained through the process of division of labor are always possible wherever there are decreasing returns to scale in the production process (such as human fatigue for example). However, specialization has optimal limits according to the existence of complementarities between the tasks to be performed (Görlich, 2010).

Ricardo (1817), remarkably, highlights one counter-intuitive but very important notion regarding specialization. The author applies the concept of specialization to the commercial relationship between two countries. Considering that two goods are produced in two different countries, it is intuitive to understand that it is advantageous for them if each one specializes in the production which the country does best. However, not so intuitive, is to realize that specialization is also beneficial for both parties even when one country produces the two goods better than the other does (Sousa, 1988). Ricardo (1817) shows that the country that best produces both products would still be better off if that country specializes in producing what it does comparatively better, leaving the other country producing what the advanced country does not produce comparatively so well.

By specializing and engaging in international trade, both societies increase their overall production. Even when testing different assumptions regarding production costs, the conclusion will always be a welfare improvement for both countries where each country specializes in producing the good where it has a comparative advantage. The most important conclusion is that, through specialization, society can increase overall welfare even when attributing a productive function to someone that is not best at anything. Hence, every human being has a useful place where a contribution is welcome. We just have to coordinate ourselves in the best possible way.

Division of labor and specialization are two very important concepts regarding the positive opportunism for exploiting 'old certainties,' i.e., in this case, for increasing productivity by increasing the scale of production. The possibility of increasing the scale of production depends upon the dimension of the market. Since it relies only on simple math and on the exploitation of the existing resources and technologies, this mechanism is straightforward and does not depend upon human behavior. Though it seems that trade openness between countries leads to economic development (through the availability of a bigger market), the research literature exhibits ambiguous conclusions regarding this subject.[15] Montalbano (2011), on a very interesting literature review on the welfare costs of exposure to shocks and uncertainty, concludes that, when an economy is exposed to trade openness, the final result to overall welfare is uncertain. The cause of that uncertainty is due to human behavior when negative opportunistic behavior comes to play. The author introduced the conceptualized existence of economic vulnerability looming from international trade and inherent to, for instance, poverty and inequality. Montalbano (2011, p.

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[15] For delving into the subject of trade openness and welfare see also Rodríguez & Rodrik (2000); David (2007); Wang, Wei & Liu (2010); Kandogan (2011); Squalli & Wilson (2011); Ulaşan (2012) Eriş & Ulaşan (2013); Yanikkaya (2013); Hoeller, Joumard, & Koske (2014); Apsalone & Šumilo (2015); Vashisht (2016); Peluffo (2016); and Huchet-Bourdon, Le Mouël & Vigil (2018).

1495), citing Tesliuc & Lindert (2004), highlights that "*empirical evidence shows that poorer households may be less able than richer ones to protect themselves against the adverse effects of "man-made" external shocks or to take advantage of the positive opportunities created by policy reforms*." In practical terms, regardless of the existence of other variables impacting the final outcome and leading to ambiguous conclusions when trade openness is a subject, the truth is that these considerations do not apply in domestic economies so sharply, and only through the market economy is possible to use the mechanisms of division of labor and specialization for improving our well-being.

Moreover, the markets enable us to elicit the benefit of diversity. Sousa (1988) argues that competition among firms leads to a wide effort of product differentiation. The firms' practice of differentiation enables them to practice a selling price closer to the monopolist's price. This practice towards a higher price while producing lower quantities of the goods, and aiming at higher profits, has a consequential loss for the general public. The profit of the monopolist is higher at the expense of the whole society. The author classifies this loss as 'the social cost of diversity.' However, empirically, it is observed that no one likes to always wear a shirt of the same color, or likes to always eat fried fish. Empirically, it is quite observable that humans appreciate differentiation up to a given degree, in what is put forth by Dixit & Stiglitz (1977, p. 297) as the "*desirability of variety*." Therefore, this is more of a benefit the markets had brought to society. The utility inherent to diversity must override the mentioned 'social cost' due to monopolistic behavior since it is definitely appreciated by everyone. Hence, diversity enhances the overall welfare of the capitalist society.

Opportunism and the capitalist society

Analyzing what substantiates different inducements for human behavior in the feudal society versus what happens in the capitalist society highlights the differences regarding property rights. If it was not for the existence of property rights markets could not have been developed, since a factory would have never been deployed, nor the division of labor, or specialization, ever applied. The capitalist economy encourages positive opportunistic behavior by inducing the creation of new firms, by continuously stimulating the search of new products to satisfy physical and emotional needs, and by fostering the exploitation of existing technology to its full potential (Schumpeter, 1934). The capitalist economy reaches a very high level of social cooperation (Marx, 1867). The feudal society, with its strongly dependent social relationships among members producing for common property, albeit employing all the people, could barely entirely satisfy the society's most basic needs. The feudal society provided a scarce stimulus for positive opportunistic behavior since any benefit resulting from an individual effort, likely, would not translate into a direct benefit to a vassal, or seldom would contribute to diminishing a serfdom permanent condition. Nonetheless, regarding property rights, while the feudal society did not encourage positive opportunistic behavior, the existence of negative opportunistic behavior under the capitalist society brought a lot of damage to social welfare in general, and employment in particular.

Marx (1867) outlines the consequences of negative opportunistic behavior, underpinned on property rights, illustrated by the social manipulation of the Gaelic people, in Scotland, which was thrown out from their lands. Specifically, in 1814, in Sutherland County, the duchess decided to transform the whole County in a huge sheep pasture. Since the Gaelic people cultivated their land there, in six years (from 1814 to 1820), 15,000 persons were thrown out from those communal lands where they lived. The people were thrown out to give space for the exploitation of the land using it for sheep pasture only. The author states that, in this way, the duchess took control of 794 thousand acres that had belonged to the outcast clan since immemorial times. To the natives, the duchess assigned 6 thousand acres of a piece of badlands in the shore, of which their owners had never been able to elicit any rent at all until then. Nonetheless, the duchess decided to split those 6 thousand acres into 29 lease spaces upon which a rent started to be levied. By the year of 1825 (just five years later), the 15,000 Gaelic had already been replaced by 131,000 sheep, and the brave Gaelic survived in their badlands spreading their efforts between the land and the sea, half husbandmen, half fishermen. But, as Marx (1867) put it, the fish smell went up to the nose of big businessmen. They sense that something profitable could be raised out from that seafront. So, the seafront, to where the Gaelic had been sent in the first place, was rent again to the large fish merchants of London, and the Gaelic were expelled once again…

Respect is something that greed hardly deals with tenderly, yet greed impacts the economy's employment level. Although sometimes we might think that moral is something which goes beyond objective analysis, it is indeed possible setting up two topic reasoning: (1) when making a decision, if I weight the number of people that will end up better off against the number of people that will end up worse off, do I get a positive number?; and (2) the social dilemma, if everybody else will act as I intend to, so I will get hurt? This is a quite objective rationale that does not depend upon cultural considerations (such as individualism versus collectivism analyses).

Economists often find support in the Pareto's rule,[16] which states that a given decision is better than other if it is possible to improve at least one person's well-being without leaving anyone else worse off. Since the above mentioned Gaelic people outcast is an example of a situation where Pareto's rule does not apply, combining positive opportunistic behavior with negative opportunistic behavior is one of the biggest socio-economic challenges, often responsible by so many economic debate stalemates. And unemployment, as I will put forth ahead, is mostly a consequence of fear and greed, cooked together under the lid of property rights.

But property rights emerge exactly like the tool which raises some fences against negative opportunistic behavior while enabling positive opportunistic behavior. In this case, when someone simply steals someone else's property, likely will be stealing the product of her labor. The robbery outcome is not positive regarding overall welfare improvement. Therefore, protecting property rights is the path for grounding economic development since it enables any economic agent to engage in productive activities. But that does not mean that a well-enforced property rights mechanism closes the range of requirements for reaching economic development.

Murtha & Lenway (1994) outlined that countries exhibit differences between property rights allocations and between transactional governance practices as well. The latter refers to the extent prices govern transactions free from government direct intervention. Therefore, within each country, the authors refer to the existence of interest group organization structures, which set relationships linking public and private sectors. These established policy networks depend upon both, the degree of freedom that economic agents have for setting up their pricing practices, and the extent to which contracts are enforceable, protecting property rights. When contracts are weakly enforceable, profit streams become ambiguous and uncertain, inhibiting markets from operating perfectly. When prices are settled centrally by the government, then private firms are prone to engage in corporatist practices, enacting industry associations and national labor unions. These corporatism practices interplay with the government, impacting the existent transactional market governance. Therefore, the influence of markets in the economy depends upon the inducements granted for economic agents' opportunistic behavior, which are always the outcome of the interaction between property rights allocations and transactional governance policy.

The usual mental duality, between a centrally planned economy and a liberal one, becomes harder to define. However, it is conceivable that we may be under an authoritative planning economy when governments have full control over productive assets. Nonetheless, when there is a mixed distribution of productive assets among private and public ownership, the power of the market for stimulating positive opportunism depends upon the combination of the levels of property rights enforcement and transactional governance through a free pricing mechanism. Walking along these two axes towards this goal of maximizing market power for stimulating positive opportunism poses some troubles as well.

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[16] Vilfredo Pareto (1848-1923) was an Italian economist.

The difficulty lies in the existence of problems regarding both excessive decentralization and excessive planning. Murtha & Lenway (1994, p. 120) refer the dangers of excessive decentralization focusing on the increasing difficulty for "*reconcile competing interests*" that "*do not add up to a coherent economic strategy*" and "*instead they may create patchworks of political expediencies that reduce economic efficiency and market flexibility*." Hence, excessive liberalization might open an opportunity window for negative opportunism. By the same token, the authors pose the danger of excessive planning economies as a gray appeal for negative opportunism such as hierarchic claims and privileges, corruption practices, and the establishment of relationship-based transactional governance. Under the above considerations, there is no wonder that, regarding the control of productive assets, the real market economies we can observe worldwide are a composition of both, a public sector and a private sector.

It is often assumed that private companies beget efficiency while public-owned enterprises do not, pursuing instead political interests mainly – such as employment sustainment. Though unemployment is never an efficient way of pursuing welfare improvement, two main considerations must be outlined regarding this mentioned assumption on private-public sector efficiency. First, regarding an overall welfare improvement goal, it remains unclear whether private sector efficiency is higher than public sector efficiency. Second, as Smith (1776) highlights, there are two sorts of monopolistic behavior impacting economic efficiency, which are enacted against different economic agents, and the resulting malfunctions vary according to the development stage of a given economy. Both require further explanation.

Markets can only be efficient when inducing positive opportunistic behavior while being inefficient when allowing the persistence of negative opportunism. Parsing out any country's economy through this lens, it is not clear what kind of opportunism dominates. Stiglitz (2013, p. 122) outlines the effects of rent-seeking by stating that "*when competition is very restricted, the real effect of competition is often waste, as the competitors fight over who gets to exploit the consumer*." The author presents several examples of rent-seeking practices and, particularly, outstands that the United States per capita health care expenses in the percentage of GDP have been two and a half times higher than the average of the advanced industrial countries, pointing out to health insurance companies and drug companies as being liable of these practices. Hence, there is no clear evidence that relying on privately-owned companies is enough to ensure economic efficiency and overall welfare.

Smith (1776) poses the existence of two different sorts of monopolies: (1) a monopoly that is grounded on the existence of only one company who buys the product, thus excluding competition from being able to sell it as well – a practice that is now known as monopsony; and (2) a monopoly that grants a company the sole right to sell its products to the market. Monopsony prevents small producers from selling their products dearer. Producers are forced to sell their products to the monopsonist, at his buy price. Simultaneously, the monopsonist prevents competition from marketing this same product as well. Monopolies of the second type grant huge profits for the monopolist by oppressing the general public. Also, these monopolies preclude further capital from being channeled to their business branch, therefore preventing it from being employed where it is most needed. These two types of negative opportunistic behavior occur in either private-owned companies or public-owned companies, thus hindering any propensity towards a clear preference regarding the utility of public or private sectors in the economy.

The role of government becomes plain by focusing on the settlement of inducements for positive opportunism. Since, for markets to work efficiently, transactions must be governed by the price mechanism and property rights must be enforceable, it is clear that a one hundred percent authoritative government (a central planning economy) cannot be economically efficient. Economic efficiency is dependent on ensuring that privately-owned companies act in the markets in similar conditions as public-owned companies do, stimulating any firm's positive opportunism by employing capital on behalf of the society's well-being. Thus, governments must induce instead of command (Murtha & Lenway, 1994).

These considerations are important to understand the existence of different levels of government control over the economy's productive assets, while properly framing the use of those productive assets. Branson (1979) outlines that economic growth is dependent on both technological headway and human capital. Governments shall direct their programs towards economic growth effectiveness according to the proportional contribution of capital and labor for overall production. For instance, when human capital is well developed and widespread in the economy, governments may rely more on the private sector to enhance overall welfare. When this is not the case, governments must take charge of educational structures and build factor market infrastructures (such as national security, education, and effective transportation network as well) to make sure that future economic development will take place. Private and public owned sectors expand or contract according to any given reality best balance, though operating one hundred percent according to a market price mechanism and under well enforceable property rights mechanism.

Of course, following the current economic system, diminishing the dimension of the public-owned sector in an economy might be a brutally hard task for a government to accomplish. This is due to political costs faced by governments when trying to close a public enterprise since employees will protest against it; making it extremely difficult for any government to take such a decision.

The market-based economy

Regardless of the dominance of public or private control over the economy's productive assets, producing for the satisfaction of physical and emotional needs obeys a set of rules. Primary economic activity, such as agriculture, is firstly deployed for the satisfaction of basic physical needs – such as feeding. Secondary economic activity, such as manufacturing, is then deployed for the satisfaction of second-order physical needs – such as dwelling, warming, and transportation. Tertiary economic activity, the services industry, including retail sales, personal beauty services, health care, insurance, financial and legal services, entertainment, and so on, is the latest economic sector to be developed, mainly ensuring the satisfaction of emotional needs. The shift to services is an evolutionary process that focuses on final demand and leads major OECD [17] advanced countries to quantify the tertiary economic activity at GDP [18] levels of 62 percent and above (Schettkat & Yocarini, 2003). At the initial stages of economic development, people must be employed for ensuring the satisfaction of mankind first-order physical needs, such as feeding. Afterward, as long as those needs are fulfilled across the population, people may gradually divert their attention to the satisfaction of the needs of both secondary and tertiary order. Moreover, when primary sector activities are already fulfilling the population wants, there is no need for further employment creation in this sector. In this case, it would be unproductive – a waste of both human resources and material resources. Thus, available human resources will be channeled towards more useful activities in the secondary and tertiary economic sectors. This evolution helps to clarify the boundaries for tolerable employment levels across sectors in a given economy.

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[17] Organization for Economic Co-operation and Development (OECD), founded in 1961, is an intergovernmental organization between 36 countries fostering economic progress and world trade.

[18] Gross Domestic Product (GDP) is the market value of all final goods and services produced during one year.

At this point, it stands out the government's role in setting up the appropriate institutional ground for sustained economic development. This is very important to deeply understand how the four wheels of our economic engine interplay to produce overall welfare. The human relationships which establish themselves across the economy for enabling the exchange of surpluses depend upon the ability of the members of the society finding opportunities to produce useful surpluses to others. Entrepreneurship starts to loom as a welcome form of employment, and the need for the balance between supply and demand is evidencing. Nonetheless, we need to further inquire about the role of the market for consolidating what means living in a market-based economy.

Defining the market in economic terms is a little tricky. Usually, the general public considers the market simply as a space of trading. However, having a market-based economy means much more than that. We have seen above that the influence of markets in the economy depends upon the inducements granted for economic agents' opportunistic behavior; though the economy remains affected by negative opportunistic behavior as well. Moreover, society has evolved from feudalism to capitalism, from an 'old certainty' to a 'new opportunity' of exploiting existing resources to maximize individuals' well-being. Thus, we have a capitalistic society that is grounded in the transaction of surpluses produced by identifying unsatisfied wants. The market, in economic terms and under the capitalist society, is a space where individual opportunistic behavior occurs, aiming at a collective benefit.

Market dynamics are settled by the relationships established among economic agents, and are governed by two rules: (1) the consumers' utility got by the consumption of a good or service requires the existence of production; and (2) the expectations set in consumers' minds regarding the exchange rates of those wanted goods and services. From rule number one, we realize that the market is in equilibrium when what is produced is consumed. Note that consumers exchange their possessions between them, and equilibrium can only be achieved when the whole surpluses were exchanged. From rule number two, we grasp that prices set the terms by which produced goods and services are exchanged among the whole society. Rule number two opens the monetary window and raises the question: how imbalances in money flow impact economic agents' expectations and disturb the overall market equilibrium? Understanding the market dynamics and realizing the impact of monetary derangements in economic agents' expectations becomes relevant for a thorough understanding of the economic process.

The most basic economic mechanisms – of production and consumption, of saving and investment, and about the role of money for the economic process effectiveness –

set the pillar stones upon which the economic system evolves. Therefore, parsing out these details add a significant color for picturing the market economy. Most of all, in the end, it helps to understand how employment comes and goes in economic circles, on a rotation of happiness and suffering.

Though consumption sets the stimulus, production is the starting point of the economic process. Labor is the only one fundamental element of the economic process, for it determines the economy's ability for both, selling and buying; i.e. exchanging! Nature is mankind's first manufacturing unit. After nature starts producing, labor must be used for the completion of the productive process. At the beginnings, men simply hunted and collected fruits from nature for surviving. Then, as knowledge and understanding improved, societies evolved as well. Labor has transformed itself, not only formally, but also essentially. Within the hunter's society, labor was essential for a man's survival. Within the capitalist society, some men can now survive without any laboring effort at all. This change took place because men assign a positive value to leisure. Being able to produce whatever they need without having to assign all available time for laboring, enhances man's productivity potential to a level never thought before. More than doing the work with our bare hands, as it happened in the past, we are now increasingly apt to get the satisfaction of our physical and emotional needs by thinking over the productive process, providing rearrangements, and deploying innovations. Being productive is increasingly more dependent upon our thinking efforts rather than our physical efforts, though every production can only be useful upon consumption. Keynes (1936, p. 44) highlights that "*all production is for the purpose of ultimately satisfying a consumer*." Hence, production naturally subordinates to consumption.

Consumption is the way through which our physical and emotional needs are satisfied. Two very important remarks must be made: (1) if something is produced and it is not consumed, then it is nothing but a waste – which leaves mankind poorer and, accordingly, is an inefficient process; and (2) since our welfare benefits from exchanging surpluses among the members of the society, we need to use money for an expeditious production-consumption matching.

Figure 1 depicts graphically this correspondence of the economic process. We are in the presence of an efficient economic process when what is produced is entirely consumed for the satisfaction of mankind's physical and emotional needs.

Figure 1 – *The efficient economic process at its simpler format*

Production	
Consumption	

Adding money to the economic process changes its dynamics. Within early societies, waste was reduced to a minimum, for people exchanged surpluses directly among themselves. Exchange rates between different goods, say one deer for thirty rabbits, end up being set up in such a way that a perfect matching between production and consumption was accomplished. When money was introduced for facilitating economic exchanges, the pricing mechanism was not changed because of using money in the economy. Now, regardless of the amount of money available in the economy, the exchange rate between a deer and a rabbit remains a thirty to one relationship (in this example). It does not matter if the man that was selling a deer for 300 currency units was able to buy a rabbit for 10 currency units, or if he was able to sell the deer for 600 currency units but only able to buy a rabbit for 20 currency units. Consequently, whatever the currency unit used as money, the exchange rates established for performing economic transactions depend upon the relative utility of the products at the moment of being consumed. Because we now use the money for performing economic transactions, the loss of money might imply a diminution on consumption, leaving a parcel of the production to waste.

Figure 2 – *The efficient economic process using money*

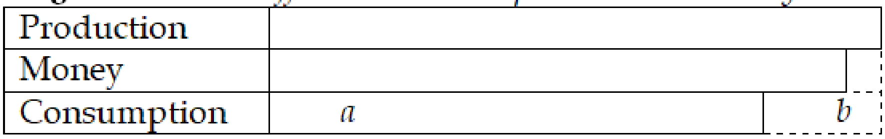
Production	
Money	
Consumption	

Figure 2 shows that the presence of money does not change the initial static equilibrium of the efficient economic process. Specifically, the use of money does not change the initial exchange rates established by economic agents for performing economic transactions among themselves.

However, one crucial subtlety emerges under the presence of money. Notice that the efficient exchange rates are established in the economy regardless of the available quantity of money used for performing economic transactions. Exchange rates are set according to the comparative utility that each good or service provides upon consumption to a given individual. After the introduction of money in the economy, exchange rates do not change at all just because of using money, and the expected exchange rate between a deer and a rabbit is still a thirty to one relationship. But, if someone loses any money, that specific economic agent will not be able to buy a rabbit, or a deer, since he will not have enough money to perform the economic transaction as expected by his counterpart. A simple loss of just a little money might compromise trading a significant part of the production.

Figure 3 outlines how even a small loss of the money available for performing economic transactions might add a significant economic inefficiency because the mismatch between production and consumption increases more than the corresponding loss of money. It is important to realize that, after the expected exchange rates had been settled, exchange rate expectations set in, and are now rooting all economic transactions. As depicted in Figure 3, money may change the economic transaction process by misleading expectations and setting up a *b* welfare loss.

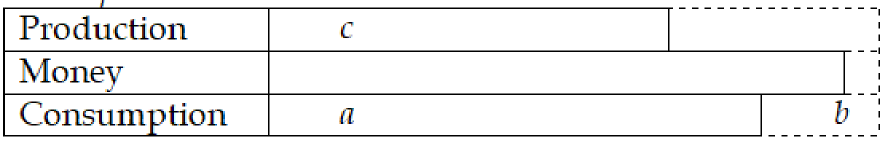
Figure 3 – *The inefficient economic process under money loss*



If this money loss occurs, and part of the production is going to waste, then producers are now expecting future losses, unless they reduce production to optimize their resources while fulfilling society's needs. This expectation on supply-side leads the economy to a new reality where production is not enough for satisfying society's needs; and the economy becomes inefficient since there are resources for producing the wanted necessaries, though they are becoming underemployed.

Now, producers are hunting less deer, and raising fewer rabbits, thinking that nobody wants as much of them as before. People still need *a*+*b*, yet they are now only getting *c* for fulfilling their needs (Figure 4). Since production has been decreased by producers' decision, some laborers had been fired, and unemployment has risen in the economy.

Figure 4 – *The inefficient economic process on underproduction*



Notice that prices had nothing to do with this market behavior. At the initial stage, the goods were produced just enough for fulfilling consumers' needs. But just because some small loss of money occurred in the economy, the prices did not adjust proportionately as they should. There is no mechanism in the market to do so. Instead, prices stood still because the utility that people grab from the consumption of each good or service is still the same, as well as their expectations regarding products' prices. The resources are the same, and the population's needs did not change either.

Since economic agents expect to complete transactions under the same exchange rates, as usual, some trading is precluded from completion because of it. The economic slump emerged because prices did not adjust immediately along with the money decrease.

In the second moment, the economy has now more money than it is required to buy the *c* production at the initially settled exchange rates. Those economic agents, who have money, still want to consume the same quantity of goods as before. Consequently, they will be prone to pay more than the initial 300 currency units for a deer, and more than 10 currency units for a rabbit. Higher prices will set in motion production increases since producers are now realizing that their goods are needed in the economy, and no production waste is being registered. Production increases lead to job creation and, accordingly, unemployment reduction. Prices will stop moving when the original produced and consumed quantities are re-established. Final prices will be settled down at a little lower level than before the economy had lost that little money, because the amount of money is now smaller than before, but the initial relationship between a deer and a rabbit settles again a thirty to one exchange rate, the same quantities are now being produced as before, and full employment is restored again.

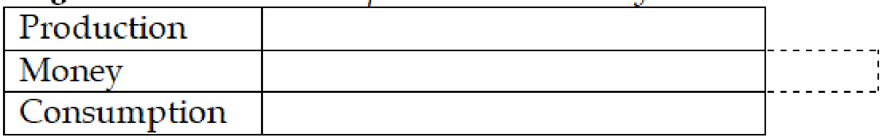
This simple reflection highlights the monetary effects of lessening the available money in the economy, causing unemployment, economic inefficiencies, and a lot of suffering just because the society is unable to properly deal with the unexpected decrease of money availability.

At this stage, one additional caveat must be underlined. The existence of purchasing power inequality between economic agents is a reality worldwide (Berg & Ostry, 2011; Hoeller, Joumard & Koske, 2014) and means unequal consuming quantities between the wealthiest and the poorest members of the society. However, if the available money is not reduced when production decreases, then the inequality regarding the quantities consumed by each economic agent remains the same, thus keeping social relationships unchanged as well. Demanding social imbalances are created after the reduction of the overall available money in the economy because both prices and unemployment increase, and those who have less purchasing power suffer a lot more than the wealthiest members of the society. Nonetheless, all society gets worse off under this event, even its wealthiest members, since all people are now having a diminished quantity of goods and services available for satisfying the same population's needs.

Conversely, it is interesting to notice that the effects of creating additional money in the economy do not impact economic agents' expectations the same way, and accrue different economic imbalances as well. In the beginning, the economy is in full employment. The society is producing as much as possible while consuming every piece of the production for satisfying its needs. By creating more money in the economy, those who have access to that extra money will be able to purchase more goods at the same initial prices. Since it is impossible to produce more, some members of the society will be satisfied with what they consume, whilst the poorest members will be facing a decrease in their living standards because they are now forced to buy their necessaries at higher prices. There is no impact on employment levels whatsoever. But because the poorest members are getting lower quantities of their necessaries, they start demanding higher wages to properly replace their purchasing power as before. The process will lead to the same exchange rates as before (the deer-rabbit thirty to one exchange rate still holds), albeit with a final equilibrium with higher product prices, higher wages, and full employment. The society's initial and final welfare remains unchanged, though its poorest members lived worse during the adjustment process.

Figure 5 illustrates that the effect of money creation, *per se*, does not create economic imbalances between production and consumption, nor it impacts employment levels after the adjustment process had taken place. However, during the adjustment process, it deteriorates the living standards of all members of the society which do not have access to the additional amount of money just created.

Figure 5 – *The economic process under money creation*



The existence of a deep connection between human behavior, the financial system, and the existence of employment, starts to be understood when we can relate the role of money with economic transactions performance. By combining the pricing mechanism with economic agents' expectations, it becomes clear how human behavior leads the economy to a given emotional reaction. When money is withdrawn from the economy, because the price mechanism is quite setting how exchange rates must govern economic transactions, some part of the production is going to waste. Wrong expectations loom among producers for misinterpreting the inability to sell all their products as being a reduction in the population's needs. Unemployment rises since producers are now trying to protect themselves against decreases in profitability while thinking they will not need to produce as much as before. It is this mechanism of wrong expectations that lead the economy to a longer slump's duration.

Remarkably, the emergence of unemployment sets a huge inefficiency in our current economic system. It is interesting to note that, by reducing the employed population, the economy also reduces the number of people with purchasing power which could signal producers that the population wants higher quantities – i.e. the population needs the same quantities of goods as before when full employment was the reality. When the economy backs off, as depicted by Figure 4, if employment was kept at the same level, then the welfare loss caused by that small money loss would have been endured by the producer who was not able to sell all its production in that year. The adjustment process would have been faster. If employment levels are kept still, then produced quantities likely remain the same. Since consumers' wanted quantities remain unchanged, then producers must decrease just a little bit their selling prices to succeed in selling all their production. However, this is not possible because: (1) producers are still paying the same amount of wages to their employees; and (2) by selling at a little lower price for running off all their production, producers would have to accept a little profit reduction. Actual economic inefficiencies arise from the tug of war between employers and employees, none of them wishing to give in just a little of any dime, setting an emotional playground. Notice that, just as important as realizing that the producers can hand over a piece of their profits to their employees for overcoming the difficulties, the laborers could accept as well a small wage decrease for facing the crisis together. And that it would have been enough for prices to adjust faster to the money reduction faced by the economy. The market equilibrium is always disturbed by variations in the money supply. Nonetheless, when the society is facing a money loss, overall welfare is a lot better during the whole process simply by preventing unemployment from occurring.

Unemployment does not increase when additional money is added to the economy. Thinking in similar terms as the reasoning illustrated through Figures 1 to 5, Friedrich Hayek (1976, p. 111) poses that there is no such thing "*called inflation caused by rising costs*." Indeed, as we have just seen, the final higher prices in the economy registered after a given external shock (which, in this example, was a small money loss) will always be caused by the existence of additional money in the hands of the economic agents. As illustrated by Figure 5, production, consumption, and exchange rates, all end up unchanged. Hayek (1976) considers that if the external shock in the market comes from a higher price of any given good or service, then it has also changed the utility that individuals have from consuming that good in comparison with other goods. Therefore, the exchange rates adjust accordingly, but the average consumer price remains unchanged – i.e. there is no inflation production. Full employment remains and, likely, the society's overall welfare is unaltered as well.

Only prices adjust.

History has shown that our economic system does not know how to properly address these issues. Marx (1867) documented an impressive stream of slumps and booms that occurred in England between 1815 and 1863. Prosperity and misery alternated at an astonishing frequency. The boom-crisis carousel was essentially caused by a lack of proper social coordination. This economic malfunction was reported through the mix occurrence of strikes, social turmoil, army interventions, overproduction, technological improvements, and international trade agreements. The author reported a clear incapacity of the economic system to effectively deal with changes in economic agents' expectations during that time frame. Moreover, it evidenced that adjustments took place following the exertion of opportunistic behavior of both positive and negative nature.

It is important to be fully aware of this interplay between microeconomics and macroeconomics because human behavior is highly conditional on expectations when money is in the way; and the existing economic system, under which we all live (regardless of any social cluster consideration), fails to provide an automatic adjustment mechanism for preventing perfectly unnecessary sufferings. As we shall see, this was the cause of both the Great Depression and the Great Recession.

Although thoroughly correct, the analysis performed along Figures 1 to 5 is lame in its assumptions. It is an analysis *ceteris paribus*, which considers the occurrence of an external shock to the economy (a money decrease, or increase), and observes how economic behaviors developed – under the same technology, the same available resources, the same population, and the same wantings – until recovering the same initial stage. This analysis outlines the importance of having a perfect matching between produced quantities and consumed quantities for the economy to be in equilibrium; which is always crucial to have a waste-free, balanced economy. But, in real life, other external shocks occur while the above-mentioned adjustment processes are still taking place. Say, for instance, that while the economy was at the stage depicted by Figure 4, a big tsunami flooded the main city, inhibiting months' production from occurring. Therefore, we need to combine dynamic analysis with static analysis, not only for deeply understand what is going on, but mostly for being capable of implementing the proper automatic economic mechanisms that enable the society to consistently maintain, or improve, its welfare.

You are now able to imagine what is happening in your economy, particularly in what concerns the use of aggregate monetary funds. However, for ensuring overall welfare under a given economic scenario, it is specifically useful to foresee how opportunistic behavior might manifest itself, and what degrees of freedom people have for exerting that behavior. Successfully blending static and dynamic analysis requires having a strong perception of the accuracy of our assumptions regarding the empirical starting point of the economy, and applying the proper theoretical mechanisms to the situation at hand.

On a step by step approach, I will retrieve the production-consumption relationship to introduce the gears of our economic system, depicturing the interplay between householders, firms, governments, and banking entities. Afterward, I will address the existing theories regarding the concepts of savings and investment, and introduce the economic effects of interest rate manipulations. This explanation will provide the basis for analyzing the proficiencies of each of the main economic theories developed so far – which are crucial for understanding the state of affairs of our current economic template.

Figure 6 shows that, in our current economic system, firms are the entities upon which the world is laying all the responsibility for producing the goods and services wanted by society. Generally speaking, firms are also the owners of the means of production. It does not matter if these productive assets are under public or private control because we are now only concerned with society's overall well-being. The important conclusion is that, for the economy to rest in equilibrium, everything that is produced by firms must be consumed cumulatively by both householders and firms. A given proportion of annual economic consumption is due to the satisfaction of firms' needs.

Figure 6 – *Still the economic process in its simplest form*

Production	Firms	
Consumption	Householders	Firms

The majority of the product devoted to firms' consumption enters the productive process itself and comprehends durable and non-durable goods. Therefore, one major distinction between the type of produced goods and one that is mandatory for temporarily framing the economic process is the separation between the production of durables and non-durables goods. This separation has been extensively recognized by research literature[19] and is crucial to realize the economic meaning of investment and savings. Since firms have all the responsibility of producing what is needed in society, so firms must produce, not only non-durable goods for immediate consumption (mostly by householders) but also durable goods which will be consumed slowly, across time (by householders – consumption of automobiles, houses, furniture, etc; and by firms – consumption of steam engines, factories, etc). That part of the production which is destined to become a firm's future productive asset [20] is called investment. As put by Sousa (1988) both consumption and investment are simply spending decisions.

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[19] Numerous studies deeply analyze the impact of macroeconomic policies on spending decisions – consumption and investment. For plunging into aggregate demand's secrets see, among many others, Modigliani & Miller (1958), Ando & Modigliani (1963, 1969); Modigliani (1966), Jorgenson (1967), Bischoff (1971), Mankiw (1982), Bernanke (1984), Grossman & Laroque (1990), Eberly (1994), Carroll (1997, 2001), Ludvigson (1999), Bernanke, Gertler & Gilchrist (1999), Pagano (2005); Parker (2011), Berger & Vavra (2012), Farhi & Werning (2013, 2016), Sharpe & Suarez (2014), Jappelli & Pistaferri (2014), and Aydin (2017).

Considering money in our macroeconomic schematic representation enables us to understand that everything that is produced and sold in the economy is, in money terms, just wages and profits.[21] Figure 7 outlines that all the income of the economy is composed of wages and profits. It also highlights that, eventually, there can be no matching between profits and investment because part of the profit may be channeled to consumption. As the first economists point out (Smith, 1776; Ricardo, 1817), in the economy it is not possible to have, simultaneously, rising wages hand in hand with rising profits. Under the same technology, rising profits always mean wage decrements.

Conversely, rising wages also always mean a profit diminution. Moreover, we may look at profits as the 'wage of the entrepreneur.' If by exploiting a given business, the entrepreneur does not yield an additional value over the wage earned by having a job as an employee of someone else, then the business will be shut down, and the entrepreneur gives up her endeavor in exchange for a regular job.

Sousa (1988) outlines the difference between 'functional income distribution' and 'personal income distribution' while referring to the proportional relationship between wages and profits in the economy. Income constitutes the whole production in the economy which is used for fulfilling economic agents' needs. Theoretically, the 'functional income distribution' is set by the ratio between each factor's productivity (capital and labor). Considering that the whole income is produced by employing two factors, labor and capital – where capital is, according to Ricardo (1817, p. 95) "*that part of the wealth of a country which is employed in production*" – then wages will be grabbing a higher portion of income if it is possible to get higher quantities of final product by employing one additional unit of labor, rather than one additional unit of capital. In this instance, theoretically, a higher proportion of income would be distributed through the labor force detrimentally to the owner of capital. The 'personal income distribution' is simply the income distribution between wages and profits, exactly as it happens between laborers and firms. Ricardo (1817, p. 133) poses that "*every diminution in the wages of labour raises profits, but produces no effect on the price of commodities*," which is logical once it does impact neither the total quantities produced nor the utility the society withdraws from its consumption. These are two important notions because of highlighting that, likely, the contribution of firms and labors for total income has not proportional returns.

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[20] That part of the production which is destined to become a firm's future productive asset is also called capital. It is in this realm that we can speak about the role of 'human capital' for economic development. Human capital exists because our knowledge and skills will impact our capacity for increasingly producing all the goods and services we need.

[21] Ancient economic literature used to set a separation between wages, profits, and rent of land (Smith, 1776; Ricardo, 1817). However, there is no loss of objectivity by considering a category of profits which includes both firms' profit and the rent of land, because those are two revenues encompassing a similar yield which has an entrepreneur-related nature.

Figure 7 – *Still the economic process using money*

Production	Firms	
Money	Wages	Profits
Consumption	Householders	Firms

When thinking about the production of durable and non-durable goods, we realize that production and consumption do not necessarily occur at the same moment, which may imply employment considerations. Empirically, we observe that householders usually do not spend all their monthly wages and save a part of it for the satisfaction of future needs. Keynes (1936, p. 56) defines saving as "*the excess of income over expenditure on consumption*." In macroeconomic terms, income is exactly the total value of the goods produced in the economy, and total expenditure is the sum of the spending decisions – consumption and investment. Therefore, it is plain that savings and investment are simply a tautological identity. This accounting identity is depicted in Figure 8. That is why an erroneous assumption regarding savings, investment, and employment creation, is often announced; i.e. the general public believes in the following logical sequence: we need to save more, to be able to invest more, to create more employment in the economy. However, increasing savings primarily lead to unemployment increases because firms will likely be unable to sell their entire production.

Figure 8 – *The economic process outlining savings and investment**

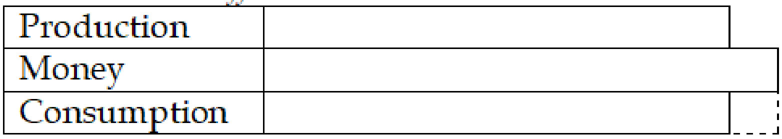
Production		
	Firms	
Money		
	Wages	Profits
	Immediate spending	Savings
Consumption		
	Householders	Firms
	Immediate expenses	Investment

* Assuming that firms' consumption is totally destined for deploying future productive assets.

Analyzing the interplay between savings, investment and employment is thus paramount since it often affects the government's political decisions. Imagine an economy in full employment, which is producing and consuming in perfect harmony, with no investment at all. Society is having their needs fulfilled, and people are happy. Now, some productive assets register unproductive performances, due to use or depreciation, and total production becomes lower than wanted quantities. Figure 9 illustrates the loss in productive capacity. Notice that the available money in the economy is the same. Now prices will go up since current productive capacity is diminishing, and the money available for transactions is the same, although the economy has fewer goods available for consumption.

The situation where production is lower than consumption's needs due to a loss in productive capacity is illustrated in Figure 9. Thus, it is required to replace the obsolete machine with a new one to increase production towards aimed quantities. Some parts of the production means must be diverted onto restoring the productive capacity. In this instance, spending decisions are split between immediate spending and investment. All the money of the economy was spent; though a part of it was going for the production of future productive assets while the other was destined for immediate consumption. The part of the money that was spent on productive assets is called 'savings' whilst the part that was spent in immediate expenses is usually called consumption.

Figure 9 – *The economic process under machinery obsolescence's effects*



This equality exists because the economy was assumed to be in full employment, and the investment need was satisfied by reducing the immediate consumption (saving) which was accomplished naturally in the economy by an increase in selling prices of the products destined for immediate consumption. Thus, full employment can persist in the economy regardless of considerations on savings or investment.

The above-mentioned mechanism has a very peculiar characteristic, which is called 'forced savings.'[22] We have just seen that the act of saving is performed by the economy with no need for householders to force themselves to abstinence from spending. However, householders indeed abstained from consuming because the available quantities of goods decreased, and the prices surely went higher.[23] In this example, the 'forced savings' mechanism occurred because producers decided to channel part of their available resources for producing future productive assets. Consumers were forced to consume lower quantities of their wanted goods, though spending the same amount of money. Thus, the mechanism of 'forced savings' enables the economy to keep full employment while performing all the investment which producers consider appropriate.

Again, the above analysis does not entirely fit reality. In real life, under our current economic system, the moment producers announce an increase in selling price laborers would ask for higher wages, fear would spark opportunistic behavior, and the adjustment process can no longer be achieved. In real life though, the mechanism of 'forced savings' happens through the process of money creation; and that is the magnificent utility of the financial industry for economic development and employment creation.

The role of money for economic development is so decisive because it has two opposite economic effects: (1) just by introducing money in the economy, without a specific investment purpose, the outcome will be strictly a useless overall price increment; and (2) by introducing money in the economy specifically for an investment purpose, then economic development is achieved; though accompanied by an increase in prices, and/or a rearrangement of the consumers' value structure. These are two very important distinctions for it means that, when performed through money creation, banking consumption credit does not add much for overall welfare if grounded on money creation; and even withdraws value from the economy.

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[22] Regarding the 'forced savings' mechanism, Schumpeter (1934, p. 109) wrote: "*if I am not mistaken it was von Mises* [Ludwig von Mises (1881-1973), an Austrian economist] *who coined the extremely happy expression 'forced savings' for this process*."

[23] Prices surely went higher because producers are now producing lower quantities, but having the same production costs, and facing the same demand for their products, i.e. consumers have the same purchasing power as before. So producers will ask for higher prices to maintain their regular profit while planning to invest that profit by deploying future productive assets.

First, when money is introduced in the economy solely for the exclusive purpose of consumption, it unleashes the regular price mechanism. Therefore, it triggers an increase in prices of the goods targeted by an enlarged demand, and nothing new happens in the economy; i.e. overall well-being does not change at all. Moreover, those who do not have access to the money extension will live worse off upon that because they will have to consume fewer goods due to facing general higher prices. As I will put forward, consumer credit has its utility, but it is not through the process of money creation.

Second, assuming the economy is in full employment when money is created for the acquisition or building of future productive assets, it will force employed resources to be diverted into the production of future productive assets, instead of being continually used for producing the existing goods destined for immediate consumption. Hence, the available quantities of goods destined to immediate consumption diminish, their prices get higher, and the immediate living standards of the society get worse off, for people are forced to consume less to enable the investment. Because of this mechanism of 'forced savings' economists used to say that economic development always happens for the benefit of future generations, and at the expense of the present generation (Sousa, 1988). However, as long as the new productive capacity is installed, the economy can, at least, recover the initial general welfare stage. Often improves it, since the new machines, factories, and/or technologies bring with them better products, at lower prices. Because of opportunistic behavior, economic development could not be the same without the existence of money creation enabling the investment process.

Opportunism plays a crucial role in this analysis. Again, assume the economy starts from a position of full employment. If a government announces the intention of executing a given investment, it likely asks the population to contribute to it. The population is forced to reduce their immediate consumption to release the resources needed for the endeavor. Fear will loom among each society's members since they will be realizing that their immediate living standards will be worsening. In this instance, considering that everyone recognizes the usefulness of the investment, people will be throwing out the responsibility of bearing the savings participation toward others; accepting the investment, but claiming that it will best serve others' interests. The mandatory social cooperation required for a successful endeavor will hardly be reached.

If we rebuild this reasoning assuming that the economy is not in full employment, then we will realize that the poorest members of the society will suffer even more due to their faced purchasing power decrements, and the process of money creation gathers even more relevance for the investment process. Notice that if there are unemployed resources available, then it does not make any sense that those resources will not be employed to improve production capacity. Assuming that the economy has unsatisfied needs, there is no doubt that it will be possible to improve social well-being by improving overall capacity – this time enabling prices to remain still, because the new products will be paid with the new money that has just entered the economy by the time of money creation used for employing the available resources. Consequently, it makes more sense starting the analysis from a full-employment hypothesis because, under the presence of unemployment, the two mentioned effects are simply exacerbated – i.e. firstly, unemployed people will even live worse off because of the price increases caused by adding money in the economy; and secondly, unemployed people will be easily employed in the deployment of new productive units without requiring a decrease on existing production; thus fostering a faster overall improvement.

Financial authorities cannot contribute positively to economic development when they decrease the quantity of money available in the economy or when they create money for consumption purposes. Indeed, banking entities only contribute to economic development when they create money destined for investment purposes or when they channel savings to satisfy consumer needs. This last point is not to be confused with enlarger consumer credit limits through money creation, which is always negative for the overall welfare and requires further explanation. You are now in a position to understand that the financial system's actions are not always positive for either the overall welfare or economic development.[24]

Consumption is an aggregate variable that encompasses the satisfaction of human physical and emotional needs. Consumption, thus defined, is the main reason why men develop opportunistic behavior. Investment is nothing more than a consequence of men using their rationality for creating themselves the opportunity of reaching higher levels of satisfaction when fulfilling their physical and emotional needs. Keynes (1936, p. 91) put forth that "*consumption – to repeat the obvious – is the sole end and object of all economic activity*." Hence, investment naturally subordinates to consumption. The relationship between consumption and investment is unidirectional regarding what concerns human needs. First, men have a set of necessaries to be satisfied. Then, men are willing to sacrifice immediate consumption (therefore saving, i.e. preventing men from immediate consumption) for using the resources absent from consumption in the improvement of their existing producing capabilities. Hence, investment always takes place on behalf of consumption.

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[24] Notice that economics is but a slice of a social big cake, contributing to overall welfare improvement *pari passu* with other sciences such as medicine, psychology, neurosciences, engineering, and so on…

Every time men deploy an investment for producing something that is not wanted by society, then men are just producing a waste. Avoiding waste production is one of the main challenges of our current economic system. There is a direct connection between waste production and consumer credit availability, which is not intuitive and requires understanding consumer behavior in both theoretical and empirical terms.

As we have seen above, money creation, when strictly destined for consumption, does not add much for welfare improvement. However, empirically, we observe that people save money from their regular income for a precautionary motive (Keynes, 1936), and as a value reserve for future payments (Hayek, 1976). Hence, because men can produce both durable and non-durable goods, men deliberately divert part of the present income for future consumption. Consequently, the notion that men save today for the future consumption of durable goods produced today, is also worthy of notice. The absolute relevance of this behavior stems from realizing that there is no need for further money creation for ensuring future consumption.

The misuse of credit lines impacts the welfare of both consumers and producers, by the wrong process of money channeling. The banking industry has always been authorized to deploy credit notes upon a given percentage of the total amount of money deposited in the bank. Therefore, when the general public saves money from their regular monthly wage and deposits these savings in the bank, the bank is induced to lend this money to make it profitable. Unless otherwise authorized by the monetary central authority, lent money can only come from savings. Consequently, this money is used by the banks for both consumer loans and investment loans, as the bank considers that best suits its interests. A few considerations must be raised.

First, if this saved money is used for future investment purposes, then part of the money which is going to be used in the investment will no longer be available for buying the goods already produced. If this investment turns out to be made for deploying a useless and unproductive asset, i.e. a failed investment, then the economy will have a reduction in the available money, and the society will experience an overall welfare decrease as depicted above by Figure 3, sparking sufferings and unemployment.

Second, the only way leading to banking bankruptcies is through the use of consumer saved money for investment credit lines. When the consumer goes back to the bank to collect her saved money, and the debtor could not fulfill his obligations, the bank is simply unable to refund the consumer with her savings, and banking bankruptcies become unavoidable. The society does not know how to properly deal with these events yet. Both the Great Depression and the Great Recession are evidence of such troubles.

Third, when the money coming from consumers' savings is used for investment loans, part of the money that was supposed to be used in future consumption needs is now diverted to other goods. Therefore, a given amount of money that was supposed to be used in the future is used right away. This action will increase current consumer prices, as depicted by Figure 5 while decreasing the economy's available money in the future. The increase in prices will mislead producers to chase potential profits where there are none to be made, targeting investments doomed to fail.

Nonetheless, whenever consumer credit is grounded on consumers' savings, both employment and market balance remain in equilibrium. When consumers' saved money is used for consumer loans, then the money surplus that one consumer does not need immediately is used right away by another consumer that does not have the money but expects to have it in the future. The consumption absence in 'moment zero' by a consumer *A* allows the immediate consumption of consumer *B*, which will refrain from consuming in 'moment one' – in the future. This is a regular money surplus transaction which brings value to the society. The 'value in use' of a given good is exchanged between two parties. In this instance, the bank does not create any money. The bank acts merely as a mediator of an exchange between two parties of the right to consume goods in two different moments.

The interest rate, a charge corresponding to the utility lost by the consumer who abstains himself from immediate consumption (which is truly the lender), is the reward that the debtor has the duty of conceding to the lender. Schumpeter (1934, p. 157) claims that "*interest is a premium on present over future purchasing power*." Hence, if banks are not free for granting consumer credit, being subjected to making lending transactions up to the limit of the consumers' savings in their deposits and acting merely as mediators of an intertemporal exchange between two consumers, the whole society will be better off.

It is interesting to realize that financial safety inherent to this sort of transaction will be enhanced under a full-employment reality. We have two completely different financial markets: (1) the financial market dedicated to consumer intertemporal exchanges; and (2) the financial market dedicated to providing capital for investment purposes. The first interest rate does not impact labor employment levels. The second interest rate impacts labor differently according to the type of employment existent in the economy. When the economy is in a full-employment situation, lower interest rates may induce more misdirected investments, and therefore, induce firms' bankruptcies as well and trigger unemployment increases. When the economy is in a situation of underemployment, then lower interest rates will induce investments to occur, creating new jobs, and reducing unemployment. Notice that banks' opportunistic behavior does not lead to favor higher interest rates when there is full employment in the economy, nor lower interest rates when there is underemployment in the economy. Sadly, banks have a plain incentive to do just the opposite, and investments are misdirected. Current financial markets are not always efficient.

These financial inefficiencies are rarely understood by the general public. When the economy is under a full employment reality, society is producing as much as possible, and likely satisfying people's needs. Therefore, deploying an additional investment becomes troublesome to producers since it can only be successful by detecting new needs to be satisfied or new ways of rearranging the means of production towards higher productivities. Hence producers are looking for fewer loans in the bank destined to take advantage of an investment opportunity. So, in a full-employment reality, banks are prone to practice lower interest rates for attracting firms to contract investment loans. Conversely, when the economy is in a situation of underemployment, banks have less money in their deposits than they would under a situation of full employment; for prices are higher and consumers save less. So banks have less money to loan, and still want to get, at least, the same profit levels as before, when the economy was at full employment. When under-employment is an economic reality, banks practice higher interest rates. Our current economic system induces inefficiencies in the market.

The Appendix exhibits a brief analysis of the evolution of the variables GDP per capita growth, unemployment, and the 10-Year Treasury note interest rate in the United States, which was performed to empirically verify the theory and concluding about the effectiveness of our current financial system. I use the 10-Year Treasury Constant Maturity Rate as a proxy for the evolution of private banks' interest rate policies in their investment credit operations. This figure represents the yield required by investors to loan funds to government, and accordingly, it is expectable that banks will be prone to prefer investing in 10-Year Treasury bonds rather than investing the same amount of money in an investment credit line to private firms, providing the former offers a higher expected return than the latter. Hence, theoretically, the proper financial system is one that settles a positive relationship between the interest rate and GDP per capita growth, and a negative relationship between the interest rate and unemployment.

Results evidence a positive relationship between *GDP per capita growth* and the *10_Year_Interest_Rate*, with a statistically significant correlation of 0.635 (significant at the 0.01 level, 2-tailed), suggesting that, usually, the US financial market happens to act according to economic needs in what concerns of ensuring GDP per capita growth. Nonetheless, there are moments when, cumulatively, GDP per capita significantly decreases, unemployment significantly increases, and the 10-Year Treasury note yield increases as well, contrarily to what were the needs of the economy. This occurrence particularly outstands in the peak of the Great Recession (in the 2008-2009 period). Results did not evidence a statistically significant relationship between unemployment and the 10-Year Treasury note yield which may hint a hardship of the existing financial system to effectively provide a meaningful contribution for employment creation.

Regarding the market for goods and services, the normal market functioning depends on maintaining the quantity of money available. As we have just seen (from Figures 1 to 9), changes in the quantity of money introduce changes in both consumers' and producers' expectations, which causes market imbalances. Figure 10 illustrates the dynamics of the market mechanism.

Number 1 illustrates that exchange rates are the result of consumers weighting the utility taken from consuming a given product. Therefore, contrariwise to general public conventional perception, producers do not define the selling prices. Consumers do it. If a given product is too expensive considering the range of choices the consumer has at his disposal, then the consumer will opt for an alternative option. Ricardo (1817, p. 249) underlines that "*when a commodity is at a monopoly price, it is at the very largest price at which the consumers are willing to purchase it*." Moreover, the author completes the idea by saying that "*the exchangeable value therefore of a commodity which is at monopoly price, is no where regulated by the cost of production*" (Ricardo, 1817, p. 250).

Indeed producers do not sell a product below its production cost, but that reality only means that producers have to consider the cost of producing a good or service before engaging in a business endeavor. It also means that producers must consider the value – i.e. the utility – that the product they are attempting to marketing will have for consumers.

Number 2 refers exactly to this mooring which ties produced quantities with the satisfaction of consumer needs and defines producers' action range. Even when a producer develops marketing campaigns, by advertising and similar practices, his focus is always on the satisfaction of consumers' needs.[25]

Number 3 illustrates the intimate matching between consumers' utilities, which defines products exchange rates (i.e. defining prices), and the role that prices have by determining economic agents’ expectations for engaging in business activities (for instance, as it was depicted above by the deer-rabbit relationship, which has set the prices of goods in the market).

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[25] For instance, Kanso & Nelson (2007) concluded that international managers consider that the relevant important factors, regarding media selection for foreign markets, are those already outlined by the host country's media research, i.e. adopting marketing practices according to host country's consumer idiosyncrasies.

Number 4 poses that the producer decides about products and produced quantities according to the guidelines received from perceived consumers’ utilities. As Ricardo (1817) puts forth, even a monopolist acts this way.

Number 5 defines that transactions will take place according to economic agents’ expectations regarding the product’s price.

Number 6 means that the transaction will take place following the producer’s desire and expectations.

Number 7 poses that consumers will complete the transaction when the product is sold according to their expectations as well.

Number 8 illustrates that the completion of trade is destined to fulfill consumers’ needs.

Figure 10 is a schematic representation of market dynamics illustrating that the efficiency of the market depends upon a perfect matching between both consumers’ expectations and producers’ expectations.

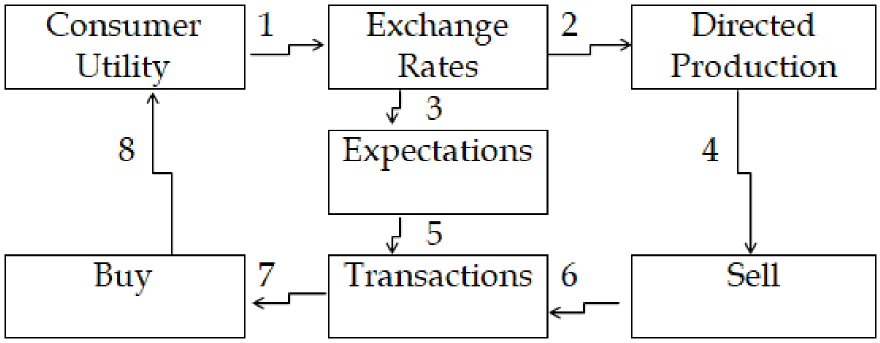
From Figures 1 to 9 I show that man introduces market disturbances by arbitrarily manipulating the aggregate money supply.

Figures 1 to 10 help visualizing market mechanics regardless of consumers’ tastes and preferences. Note that consumers’ tastes and preferences may be setting up consumers’ utilities (market mechanism starting point), but that does not impact anything in the normal market functioning. The market acts through the pricing mechanism for a given set of consumers’ tastes and preferences. Moreover, the market adjusts accordingly without requiring any manual interference, producing what consumers are demanding, at consumers’ required quantities, which will be traded in the market according to economic agents’ expectations.

It is thus paramount to demark the economic mechanisms leading to equilibrium from human behavior tastes or preferences because arbitrary interventions are usually harmful to a proper market functioning. The mechanics of ‘consumption’s utility-matching production’ are guiding the market by trading while using existing money and according to price expectations. These expectations spark opportunistic behavior, which is the outcome of a relationship, rather than the result of individual preferences or tastes.

Opportunistic behavior looms from men exploring ‘new opportunities’ and exploiting ‘old certainties.’ Economic equilibrium is set by the expression of opportunistic behavior facing the expectations dictated by both quantities and money price signals. Decisions are taken according to each consumer's total available money. Hence, for markets to properly functioning it is required that the economic mechanisms, which lead to equilibrium, may be free from arbitrary intervention.

Figure 10 – *The dynamics of the market mechanism*



It is appropriate to take a break to realize how economic efficiency is threatened by opportunistic behavior. You are now able to relate the actions of the four gears of any economic template within their macro activities and micro interests. You can see now how different negative opportunistic behavior may take place, beyond the usually claimed lobbying and corruptive practices. Moreover, you are now able to identify by yourself what might be your institutional reality which precludes economic development and/or hinders general welfare in your economy. It is interesting to note that the arbitrary decisions regarding a single-man market intervention are usually harmful to the general well-being.

Also, it is worth outlining that the gain in economic efficiency, stemming from the detachment between consumer credit and investment credit, has nothing to do with *a priori* consumer behavior, or *a priori* producer behavior. The literature presents several theories to explain human consumption behavior (Branson, 1979). In 1949, James Duesenberry developed a theory based on the assumption that consumers make decisions comparing their own consumption levels with that of the remaining population, meaning that the consumption utility gathered by the individual is dependent upon being consuming above or below the society's average (Branson, 1979). Later on, authors such as Friedman (1957) and Ando & Modigliani (1963) developed theories based on the idea that individuals will try to maximize their utility considering their expected total income during their whole life, given rising to the theory now known as Life Cycle - Permanent Income Hypothesis. In this framework, individuals will adjust their temporal consumption patterns along their own life cycle and according to their expected permanent income.

More recently, Carroll (1997) shows that consumers exhibit a buffer-stock behavior due to future income uncertainty and preference for present consumption over future consumption. The author explains that *"buffer-stock savers have a target wealth-to-permanent-income ratio such that, if wealth is below the target, the precautionary saving motive will dominate impatience, and the consumer will save, while if wealth is above the target, impatience will dominate prudence, and the consumer will dissave"* (Carroll, 1997, p. 2). Hence, the interest rate does not impact individuals' decisions on savings, which weaknesses the effectiveness of any man's arbitrary economic intervention in the money market.

Late research highlights that consumption responses regarding durable expenditures differ according to the state of the economy, being "*systematically weaker during recessions than during booms*" (Berger & Vavra, 2012, p. 27). The main idea regarding this effort from the science is to identify the best macroeconomic policies for governments and monetary central authorities to intervene in the markets, as outlined by Japelli & Pistaferri (2014, p. 107) by saying that "*knowledge on how consumers respond to income shocks – the Marginal Propensity to Consume (MPC) – is crucial for evaluating the macroeconomic impact of tax and labor market reforms, and for the design of stabilization and income maintenance policies.*"

Similar efforts have been pursued regarding the determinants of investment. In a recent study on investment by Sharpe & Suarez (2014, p. 5), the authors mention that one popular reason pointed out by firms for being insensitive to interest rates is that "*the firm's investment is based largely on product demand or long-term plans rather than on current interest rates*." It seems unavoidable to adopt a view of recognition of the existence of a huge gap between the efficient use of the markets to improve our welfare, and the systematic effort made by men keeping arbitrary control over the economic variables.

We arrive at a point where integrating the economic theories developed so far becomes important to put together the notions of consumption, production, savings, and investment, enabling our ability to understand the differences in the views of the government's members in the realm of sheer political economy.

On the chief economic theories

The economic theory developed to date has been treating the process of money creation as a prerogative to which governments are perfectly entitled to do as wish – or the nation's central bank when considered appropriate. Consequently, the theory assumes that governments, or central banks, decide arbitrarily if money should be added or withdrawn from the economy according to their political intents. Most of all, it aims to enhance governments' ability to reaching the control of prices and employment levels, while preventing inflation from happening; allegedly, ensuring our society's well-being. Hence, it is relevant to understand the grounded assumptions of each economic theory for acquiring a critical view regarding the extension of their use for deploying economic development measures.

Classical theory has found its most distinguished mentors in Adam Smith and David Ricardo though it has been developed by many other economists as well, such as Jean-Baptiste Say (associated to the expression "*laissez-faire, laissez-passer*"), Thomas Malthus, James Mill, John Stuart Mill, Heinrich von Thünen, and Léon Walras (creator of the General Equilibrium Theory, which proves that the interaction between supply and demand, through the price mechanism and under a given set of assumptions, results in overall equilibrium).

The focus of Classical economic theory is production. The basic idea hinges around considering that general welfare is improved by producing more goods, for the enjoyment of the whole population. Hence, according to the first economists, the whole society will benefit from focusing on production efficiency. The level of economic efficiency is evaluated by using a firms' lens. Since firms are the owners of the productive assets it is understood that firms are the preferred vehicle for reaching economic development.

A few basic assumptions settle the foundations of classical economic theory. Fundamentally, Classical theory-driven assumptions are: (1) the market functions under a pure or perfect competitive structure; (2) the maximum output that the economy can produce is determined by the technology and the efficient use of the factors, capital and labor – setting up a production function of the form $Q = \mathrm{f}\ (L,K)$, where Q is the quantity of output the economy obtains from using the independent variables labor, L, and capital, K; and (3) the consumers' utility which laborers get from their wage is equal to the utility lost by them from being prevented from using their time for leisure, or other pleasant occupations (Ricardo, 1817; Marx, 1867; Keynes, 1936; Sousa, 1988). These assumptions lead economists towards focusing on the supply side of the economy. Hence, it is mandatory delving into their implications to grasp both its main contributions to economic development and its important missing points.

First, the theory assumes that there exists a perfectly competitive market. This means that: (1) there is perfect information, free and complete – therefore the goods are homogeneous in their capacity for fulfilling consumers' needs; (2) all economic agents are price-takers – hence, neither firms nor consumers have the power for setting up the price at which any transaction takes place; and (3) every economic agent is free from entering and exit the market at pleasure. Assuming that the economy is under a perfect competition situation is a very profound assumption, for it means that as long as entrepreneurs identify a profitable opportunity, new firms will enter the market up to the point where the profit perspective is no longer interesting for deploying a new business unit. As we shall see, that means that there would be no obstacles to full employment (Keynes, 1936).

The second assumption leads researchers to investigate the relationship between labor and capital. Moreover, it considers that firms increase their efficiency by favoring the use of the most profitable factor in their production function. Firms can dispose of labor and capital at will, hence, treating labor as a common commodity. The theory also assumes that there are decreasing returns to scale, i.e. increasing one additional unit of input into the productive process, leads the quantity of output to increase for less than one unit. This assumption founds support in several empirical observations, such as the existence of heterogeneity among the labor force (Keynes, 1936)[26] or the reduction on the soil's fertility caused by successive plantations (Sousa, 1988). Although less frequent, it is possible to observe as well situations of both constant returns to scale (on a one to one proportional relationship, such as one additional unit of input leading to one additional unit of output) and increasing returns to scale (where adding one unit of input leads to an increase of output more than proportional, i.e. higher than one unit).

The third assumption of Classical theory assumes that every person prefers not to work at all. Therefore, it is said that having a job, instead of being useful to the person, it carries a disutility with it, which must be compensated by the wage. Keynes (1936, p. 11) poses that the postulate of Classical theory sets that "*the utility of the wage when a given volume of labour is employed is equal to the marginal disutility of that amount of employment*". Through this assumption, Classical theory embraces the idea that firms decide the amount of labor they wish to hire according to the wage that is going to be paid, and also that firms will hire every available person just as long as their wage is low enough for allowing it. Conversely, laborers accept to work just because they need to earn a wage for affording the conveniences required for survival.

Being aware of the three assumptions enables to understand the expected outcome when putting it all together. Therefore, when firms maximize their profits by seeking efficiency using the comparatively least expensive factor for producing one unit of output,[27] economic development occurs for benefiting the whole population. But having a balanced economic growth requires that the equality between savings and investment must be obeyed in aggregate terms. Assuming a constant technology, if capital and labor increase, then overall output increases as well. Growing the role of capital in the economy involve investment increments, while population growth implies positively the economy's output. Hence, the classical model for economic growth is completely grounded in the hypotheses regarding the production function, the active population growth, and the behavior of investment (Branson, 1979). This model is thus submitted to homeostatic analysis.

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[26] Keynes (1936, p. 41) outlines that the existence of heterogeneity among labor force leads to decreasing returns to scale stating that "*we subsume, so to speak, the non-homogeneity of equally remunerated labour units in the equipment, which we regard as less and less adapted to employ the available labour units as output increases, instead of regarding the available labour units as less and less adapted to use a homogeneous equipment.*"

To check out the stability of the model it is necessary to analyze the effects of imbalances on investment behavior – for economic growth is dependent upon the production function in this model. Starting from a situation of full employment, if the investment is too strong (i.e. if capital growth is higher than population growth) then the economy's total production increases, and so it does the economy's average productivity per capita (per active labor). People will be living better. However, because Classical theory assumes the presence of decreasing returns to scale, the investment increase of one unit does not translate into a similar proportional increase in output. Consequently, firms are getting a proportionally smaller return on their subsequent investments than they had gotten before. Firms are thus induced to reduce their investment efforts to the previous equilibrium level (Sousa, 1988). Starting from a situation where capital growth is lower than population growth, symmetrical reasoning applies. Hence, if the firm's investment is increased by one unit, then the final return will rise for more than one unit because it will combine with the rising aggregate demand. Firms are getting higher returns for their investments and are thus induced to foster the economy's capital growth. The classical theory concludes thereafter that there is a value of capital growth in the economy (which is the same as investment growth) that leads to stable economic development, and must evolve *pari passu* with population growth.

One very interesting caveat on Classical theory is that the role of money is thus reduced to a ruling function of the interest rate on savings and investment behavior. Indeed, according to Classical theory, the problem of ensuring economic development is merely a question of identifying the optimal use of capital in the economy. Since the interest rate is the remuneration of capital, then there must be an equilibrium interest rate that sets the proper level of both, investment and savings, which leads the economy to pursue its economic growth under the auspices of full employment. But, after one Great Depression and one Great Recession, we know now that economic issues do not evolve quite exactly as arranged by Classical theory propositions.

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[27] In this instance, the terms income, product, and output, are all used indistinctly for representing the overall production of goods and services in the economy.

Nonetheless, Classical theory gave a huge contribution to understanding how economic development can be pursued. Moreover, Classical theory gives very important explanations, namely: how the mechanism of profit maximization impacts the economy, how the welfare improvement may be an outcome of competitive behavior, and what are the limits for competitive behavior in the economy. These positive contributions are so important that they demand further analysis.

First, firms, by seeking the most profitable use of the production factors, deploy new investments by using capital or labor. The amount of labor employed in the economy is decided by firms according to the profitable use of the available resources.

Second, welfare improvement is achieved by increasing real wages while stimulating firms' competitive behavior. Under a given technology, firms' engagement in a profit maximization behavior will lead to the maximum possible production at the lowest possible production prices. Welfare improvement occurs by increasing laborers' real wages – i.e., the same wage affords higher quantities of products and services for consumer's needs.

Third, competition can only be improved to the extent where firms' profitability is zero, after the production costs, capital, and labor, having been paid. Ricardo (1817, p. 88) states that "*this restless desire on the part of all the employers of stock, to quit a less profitable for a more advantageous business, has a strong tendency to equalize the rate of profits of all, or to fix them in such proportions, as may in the estimation of the parties, compensate for any advantage which one may have, or may appear to have over others.*" The author outlines that competition between entrepreneurs will lead the economy into a general rate of profit, which, will trend towards zero. Thus, Classical theory provides a sound foundation for explaining the natural development process of any economy, starting by employing labor in the primary sector and, once that sector is exploited to a point where further investments are leading to non-profitable endeavors, entrepreneurs must focus in employing their available capital producing other goods and services which lead to soothing unsatisfied needs at better prices – hence being more profitable than by pursuing an investment in the primary sector.

Though it is plain that the society needs to produce the goods and services for satisfying its physical and emotional needs, there are still a set of relevant economic questions to which Classical theory does not provide an answer, namely: (1) since it is assumed that, facing a given technology, firms employ all available persons paying the wage settled by the market, then how it is explained the existence of one single active laborer seeking a job he cannot get; (2) the existence of people so devoted to their profession, loving what they do beyond the simple utility provided by the goods that their salary allows affording, usually labeled workaholics, is a resource that does not seem to fit Classical theory's starting assumptions; (3) since perfect competition is the booster of economic development, and firms take all economic decisions based on their private interests, which are profit driven, how is the economic system managing the increased bias of income distribution towards favoring those who are entitled to hoarding through entrepreneurship, detrimentally to those who simply are allowed to sell their work force; and (4) when technology improves, and men learn to produce more using the same amount of capital with less labor employment, how is the economy supposed to adjust in order to pursue overall welfare? These are relevant questions that raise the awareness of Classical theory disability for properly dealing with the problems of inequality and unemployment.

Keynes (1936) was not the first economist to questioning the merits of Classical theory. Ricardo (1817, p. lvii), one of the most prominent mentors of Classical theory, disclosing his worries, wrote: "*I now, however, see reason to be satisfied that the one fund, from which landlords and capitalists derive their revenue, may increase, while the other, that upon which the laboring class mainly depend, may diminish*," and "*that the opinion entertained by the laboring class, that the employment of machinery is frequently detrimental to their interests, is not founded on prejudice and error, but is conformable to the correct principles of political economy*." David Ricardo was more than a guardian of the Classical theory. He was an economist seeking to find the true path towards overall welfare. John Maynard Keynes was a follower of this last guideline.

Keynes (1936) assigns the failure of Classical theory to its ingrained idea that aggregate supply creates its demand. Indeed, under a given technology (production function) and while seeking the most profitable use of the available resources (firm's efficiency), firms will allegedly employ all available men wishing to work for the existent market wage. Laborers will be disposed to work just as long as their wage is enough to pay their necessaries and conveniences required for their families' survival. Hence, following these assumptions, supply will be creating its own demand, and resting the analysis on the economy's supply-side would be enough for a correct assessment of the state of affairs. This idea was mainly championed by Jean-Baptiste Say, and likely, fiercely first challenged by Thomas Malthus who has presented his arguments based on facts of common observation (Keynes, 1936). It is argued by Keynes (1936) that if supply creates its own demand, then the aggregate demand for output would always accommodate the aggregate supply-side of the economy. Consequently, instead of having a unique equilibrium value, the economy would have an infinite range of demand values, equally admissible according to supply-side settings; and the amount of employment could not be determined univocally. Keynes

(1936, p. 28) argues that "*if this were true, competition between entrepreneurs would always lead to an expansion of employment up to the point at which the supply of output as a whole ceases to be elastic, i.e. where a further increase in the value of effective demand will no longer be accompanied by any increase in output*" and "*evidently this amounts to the same thing as full employment*." Since the existence of involuntary unemployment is empirically observed, it is not possible to accept the idea that we can safely disregard the demand side of the economy.

The Keynesian theory was developed focusing on solving the involuntary unemployment issue. The basic assumptions of the Keynesian theory are an interesting point of analysis because, in the first place, it constitutes the first alternative economic model designed for solving Classical theory insufficiencies. Keynes (1936) considered that, on one hand, involuntary unemployment was an undeniable economic reality. On the other hand, although not justly widely recognized, the author also aims at protecting the supply side of the economy from being precluded from investing any available capital – raising the concept of 'liquidity trap.'[28] Both concerns drive the economist to identify a crucial role of the public sector for holding the reins of an economy when in a rampant rampage to the abyss.

The main assumptions of the Keynesian theory are: (1) as income grows, individuals tend to save their income in an increasing percentage; (2) entrepreneurs' investment decisions are taken by comparing the expected rate of return yielded by the investment with the cost of borrowing funds – therefore, investments are primarily undertaken by those who present the highest expected rate of return; and (3) markets exhibit a general downward inflexibility of prices (Keynes, 1936; Branson, 1979; Sousa, 1988). By putting together these three assumptions, economists reach a different general equilibrium than the one obtained by applying Classical theory.

Unlike Classical theory, Keynes's assumptions outstand the importance of aggregate demand for a balanced functioning of the economy and, consequently, for the stable development of overall welfare. Economic agents' income (everything that is produced and traded in the economy) is spent by both, consumers and firms. Generally speaking, consumers spend their wages buying consumer goods, while firms spend their profits buying productive assets. Hence, in this simple model, profits are the savings of the economy which are invested for deploying productive assets. These savings are thus conditioned on expecting the future existence of a wide cohort of consumers which, in the future, will be buying the entire production. However, Keynes noticed that consumers save part of their income, and realize that this behavior does impact the economic equilibrium between aggregate supply and aggregate demand.

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[28] Briefly, a 'liquidity trap' is an economic situation in which interest rates are low, the savings rate is high, and firms do not foresee profitable investment opportunities. The overall conditions lead the economy into a stage of lethargy.

Economic agents (both consumers and producers) usually save part of their income. Because changes in the total amount of savings directly impact the total income at hand for buying the available products and services, then a reduction of the available income for spending will lead to a supply surplus, making it relevant to understand the motives why this may happen.

Essentially, Keynes (1936, p. 95) considers that firms save part of their income for two main reasons: (1) "*to secure resources to carry out further capital investment;*" and (2) "*to secure liquid resources to meet emergencies, difficulties and depressions*." Analogously, the author identifies eight main motives "*which lead individuals to refrain from spending out of their incomes: (i) to build a reserve against unforeseen contingencies; (ii) to provide for an anticipated future between the income and the needs of the individual or his family different from that which exists in the present, for example, in relation to old age, family education, or the maintenance of dependents; (iii) to enjoy interest and appreciation, i.e. because a larger real consumption at a later date is preferred to a smaller immediate consumption; (iv) to enjoy a gradually increasing expenditure, since it gratifies a common instinct to look forward to a gradually improving standard of life rather than the contrary, even though the capacity for enjoyment may be diminishing; (v) to enjoy a sense of independence and a power to do things, though without a clear idea or definite intention of specific action; (vi) to secure a masse de manoeuvre to carry out speculative or business projects; (vii) to bequeath a fortune; and (viii) to satisfy pure miserliness, i.e. unreasonable but insistent inhibitions against acts of expenditure as such*" (Keynes, 1936, p. 94). John Maynard Keynes defines the eight motives as precaution, foresight, calculation, improvement, independence, enterprise, pride, and avarice, all-natural human behavior which economic theory cannot afford to disregard. Moreover, this analysis strongly suggests that human propensity to save part of their income increases, indeed, along with consumers' income increments.

With time, higher propensities to save will have two related consequences in the economy: (1) consumers will be spending less, leading to accrued supply surpluses; and (2) entrepreneurs will have to scrutinize far further their investment opportunities since deploying new investments will not have the expected return once consumers are increasingly less keen about buying those additional quantities of output. Combining the fact that producers rely on market information to deploy their investments with the unavoidable increasing propensity for saving along with consumers' income increases, the economy is led onto a clear impossibility of assuring the maintenance of full employment once reached.

Theoretically, reaching full employment is managed in a similar way posed by Classical theory. Both Classical and Keynesian theories assume that the technology remains the same. Therefore, having labor resources available, the technology accepts the deployment of new investments that employ those unemployed persons, and, in this sense, supply builds its own demand because the wages paid will enable these people to buy their conveniences and necessaries. Competition between firms enables quantities to increase, prices to decrease, and overall welfare to improve, exactly in line with what is professed by Classical theory. However, the problems arise when a stage of full employment is reached.

The mechanism of trouble is a plain consequence of the above mentioned theoretical assumptions. Keynes alerted that when in full employment, people tend to save a higher proportion of their income. Therefore, proportionally, the economy refrains from spending as much as before, when unemployment was a reality. This means that aggregate demand falls short aggregate supply. Moreover, in the financial system, this means that more money is available in the banks, leading market interest rates to fall. At this point, Classical theory poses that investment will be prone to jump in, propelled by lower interest rates. However, Keynes alerted that investment depends upon the existence of consumers who wish to buy the products potentially coming from new investments. Furthermore, the author states that, under a full employment reality, new investments can only be deployed by increasing wages (for capturing laborers from their existing jobs), which further diminishes the range of profitable investment opportunities. The final consequence is that the economy will reach a stage where interest rates are low. There will be money available to deploy new investments, but aggregate demand will fall short aggregate supply; for the economy is now producing more goods than those that are being bought. Hence, entrepreneurs will refrain from investing, bankruptcies loom obviously, and firms start struggling for lowering wages to enable their business' feasibility. The market economy enters a stage that Keynes called a 'liquidity trap'. Since laborers do not allow for money wages decreases, firms' adjustment proceeds by producing fewer quantities of final products, and unemployment emerges again, as a mathematical certainty.

Some economists, such as Arthur Pigou,[29] argued that, in this instance, the wealth effect coming from higher incomes would lead to higher consumption expenses, reducing the excess of savings, and hence, returning the economy to its normal equilibrium (Branson, 1979). However, empirical data evidence struggles with this proposition since full employment is yet a rare and fleeting occurrence worldwide.

When looking at the explanation made through Figures 1 to 10, it is possible to realize that expectations play a decisive role in market functioning. When the economy reaches a stage of full employment, it is unavoidable to have both, consumers and producers, bonded to past expectations settled by prices and wages, since both have just determined their welfare standards. Therefore, again, it is unavoidable to understand that adjustments proceed through quantities. Producers do what they are allowed to: i.e., diminish produced quantities and reduce production costs by firing laborers. Consumers do what they feel they must to: i.e., they strive for keeping their money wage as it is. Social cooperation is left behind, and the Keynesian theory applies. Once again, it is magnified that the whole process is both social and economic.

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[29] Arthur Cecil Pigou (1877 – 1959) was an English economist who supported the use of taxes for directing economic agent behavior (for instance for preventing environmental pollution), and for fostering higher social equality.

Based on his theory, and grounded in the facts of common evidence, Keynes poses that, for keeping the economy in the stage of full employment, governments need to deploy the investments for enabling aggregate demand to absorb existing surpluses. In two sentences Keynes (1936, p. 277) said it all: "*In conditions of laissez-faire the avoidance of wide fluctuations in employment may, therefore, prove impossible without a far-reaching change in the psychology of investment markets such as there is no reason to expect. I conclude that the duty of ordering the current volume of investment cannot safely be left in private hands*." Addressing Keynesian theory, Branson (1979) outlined that if the market is not properly functioning towards equilibrium, then the amount of money that is traded may be lower than the amount that consumers wished to trade (for instance, due to constraints in the traded quantities). The emergence of economic signals given by quantities implies looking at the market economy with a rather different view than the one professed by "the invisible hand" (Branson, 1979).

Notice that the main difference regarding the assumptions of both Classical and Keynesian theories consubstantiate on the existence of flexibility (or lack of it) in both market prices and wages (Sousa, 1988). Classical theory assumes that wages will adjust downward when the economy enters a downward trend, since an unemployment increase induces a decrease in wages, therefore, enabling investment to recover. Conversely, Keynesian theory poses that, when the slump looms, both prices and wages maintain their absolute values since economic agents' expectations do not allow the economy to adjust downward as they should. Economists divide themselves between the supporters of the theoretical wing which they feel closely related to the observed state of affairs since the burgeoning of Keynesian theory.

Keynesian theory gives several important contributions to economics: (1) explains why it is so difficult to maintain the level of full employment in any economy; (2) outlines the need of focusing on both sides of the economy, production and consumption, since economic equilibrium entirely depends on this equality; (3) highlights that economic agent expectations are crucial for the dynamic relationships happening in the market place; (4) points out the intertemporal nature of economic agents decisions (which often lead to market misinformation); and (5) clearly poses that it is not possible to have overall investors welfare without safeguarding consumers welfare as well. And it is this approach that justifies government intervention in the economy for assuring continuous economic development.

What neither, Classical theory nor Keynesian theory, explain, is how technology changes, and what kind of impacts does it accrues to economic equilibrium. Both theories focus mostly on the quantitative economic features and consider technological changes as an external shock to the economic equilibrium. Strongly addressing technological changes and its economic effects, the Schumpeterian theory looms focusing on a qualitative view of the economy – i.e. the combination of productive forces, both material and immaterial (Sousa, 1988) which condition economic development.

Schumpeterian theory is grounded on a few assumptions: (1) the economy is based on property rights, division of labor, and free competition; (2) economic activity always aims at the satisfaction of wants; (3) the value system "*exhibits a very noteworthy stability*" (Schumpeter, 1934, p. 39); (4) economic growth is different from economic development; (5) economic development is dependent upon both institutional context and socio-cultural context; and (6) entrepreneurs are the drivers of economic development. Under these assumptions, as we shall see, money is set to play a completely different role than what was considered under both Classic and Keynesian theories.

Assumptions number (1) and number (2) are shared with both classical and Keynesian theories, although Schumpeter goes beyond the satisfaction of material needs. The author considers that economic activity may even have a spiritual motive, though all goods will find a market and, therefore, the consumer is always the economic leader. Hence, it is assumed that production depends upon empirically known market possibilities.

The Schumpeterian theory was developed deeply ingrained in a perception that the *ceteris paribus* assumption does not hold in reality. To Schumpeter, individuals act permanently in a constant interplay between economical facts and technological facts. This interplay is grounded on an embrace between the forces of 'utilizing' and 'influencing,' by which "*many different methods of using, and of behaving towards goods*", as well as "*all kinds of locational changes, and changes in mechanical, chemical and other processes*" (Schumpeter, 1934, p. 14), perform economic and technological reasoning, leading the society to a final consensus for satisfying its needs. Consequently, since empirically it is plain that the economy cannot command individuals for standing still, trying to explain economic facts under this assumption must necessarily be framed in a very narrow scope.

Because both, improvements in technique and changes in a productive organization, are deployed for the sake of satisfying consumers' needs, "*unsatisfied wants are, therefore, by no means without significance*" (Schumpeter, 1934, p. 29). The concept of value garners crucial importance for understanding overall economic development.

The author conceptualizes 'value' in a similar way as posed by Marx (1867), i.e. 'value in use' is the relevant economic form for welfare improvement. Schumpeter (1934, p. 139) goes far further by posing that "*the world of prices does not exist and only that of value remains*." He noted that the value system exhibits noteworthy stability and prices are merely the outcomes of social pressures. Consequently, given the wide value system stability, it is innate that individuals focus on the development of technology towards the satisfaction of consumers' needs while seeking the market for profitable opportunities at hand. Hence, the role of individuals' expectations was at the foremost foundations of Schumpeter's theory.

To Schumpeter, Classical economic theory was drawn to explain static equilibriums and did not provide a plain explanation regarding how development takes place. Once value expectations drive economic agents' motives for acting, the economy has an inner development booster which is not explained by Classical theory. To him, the booms and slumps were explained by prior theory under a core of static apparatus, that represented mere unbalances around an equilibrium value – which he called 'the circular flow of economic life' – and did not truly explain how welfare improvement indeed takes place. Hence, the author introduces a dynamic model which sets a clear separation between economic and technological processes, posing that "*the economic and the technological combinations, the former concerned with existing needs and means, the latter with the basic idea of the methods, do not coincide*" (Schumpeter, 1934, p. 14). Therefore, Schumpeter demarks himself from prior theory since, though overlapping assumptions number (1) and number (2), he classifies the process of economic growth, as stated by Classical theory, as a mere quantitative process, where the same production methods remain unchanged, albeit both physical and money flows may increase or decrease. To him, development implies technological leaps, profound changes in the way of organizing the production process or combining the production factors. By assumption number (3), development demands innovation. Development requires a new set of 'values' which will be forced by enlarger the fan of wants that may be satisfied. Economic development will be reached by creating either, new technological combinations or new productive organizations, which will calm down unsatisfied needs, whether perceived or latent, thus setting the difference between economic growth and economic development as posed by assumption number (4).

Assumption number (5) looms as a natural consequence of the relationship between economic development and the existence of innovations. By focusing on innovations for welfare creation, economics steps out the narrow perspective of ensuring well-being improvement just by efficiently using the production factors – labor and capital – for embracing a much wider range of units of analysis, such as those provided by the institutional and social contexts. Labor is no longer considered a mere commodity.

Nonetheless, at the same time that Schumpeter's ideas were coming together,[30] the world was realizing that replacing laborers according to the price of their workforce, as recommended by Classical theory, could be extremely costly. In 1911, Ford Motor Company had no labor policy at all. From 1911 to 1914, the company managed to set up the most advanced labor policy on Earth, by creating and integrating an "*highly human resource management function with a centralized human resources department, job/wage classification system, training program, extensive welfare (benefit) programs, replacement of employment-at-will with termination-for-cause, and a grievance/mediation committee*" (Kaufman, 2012, p. 508). Moreover, Ford Motor Company doubled its employees' wages. These decisions took place because of increasing awareness of the importance of laborers' commitment to reaching higher levels of productivity. The company understood that it was possible to garner higher levels of efficiency by rearranging its productive organization, where the entire workforce was a linchpin in the whole process. In 1913, the company deployed the first integrated, large-scale assembly line, which allowed a reduction in a car production time from twelve and one-half hours to one and one-half hours. Production time decreased to nearly one eighth, enabling huge efficiency gains. The company tremendously expanded its output volume, selling at lower prices, yet making more profits, and improving its workforce living conditions. The advanced world never looked at a man's workforce as a mere commodity anymore.

By bringing this perspective into the realm of economics, Schumpeter opened up a new path for understanding economic development through the lens of human capabilities. Human creativity, scientific knowledge, management processes, and economic efficiencies, all come together for setting up overall welfare improvement, regardless of material conditions provided by nature. Therefore, institutional and social context are clearly, and profoundly, determinant for raising economic development conditions. For instance, creating a developed education system is a form of saving, since the present adult population will be working for maintaining those who are dedicated to the education system. The education system becomes a society's investment since this current effort will be yielding returns in the future by the deployment of new technological combinations and productive rearrangements, fostering overall welfare improvement. The tautological equality between investment and savings becomes clear. At the same time, we realize that economic development does not require a focus on savings, in the sense of refraining from consumption, as alerted by John M. Keynes; though, in the present, it requires a focus on producing the productive assets that will earn future returns,[31] as supported by Classical theory. Economic development requires an extensive application of human opportunistic behavior for exploring 'new opportunities' and exploiting 'old certainties,' as put forth by March (1991).

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[30] Schumpeter's first version of "The Theory of Economic Development," written in German, was published in Germany, 1911.

Hence, Schumpeter demarks himself from Classical theory by outlining that quantitative decisions are second to qualitative decisions. To him, entrepreneurs are the drivers of economic development. Entrepreneurs elicit available knowledge and reconfigure techniques and productive organizations for satisfying human wants. Innovations are seen as irreversible changes in the way of doing things, which cannot be decomposed in infinitesimal steps (Sousa, 1988), whilst irreparably setting up technological leaps. The wide variety of individual talents will spark a multitude of widespread improvements that, in turn, will lead to economic development at a pace only possible through private initiative. Thus, to Schumpeter, economic development is mostly dependent upon qualitative aspects of societal organization, rather than individuals' quantitative decisions, as previously put by Classical theory.

The entrepreneur is motivated by profit and by emotional factors as well, such as power or social prestige. Thereupon culture looms as another crucial element of conditioning economic development. The relevant institutional context for reaching economic development becomes a mix of culture, law enforcement, safety conditions, educational structures, and market infrastructures, which combine for defining the boundaries of the whole economic activity. Entrepreneurs' opportunistic behavior is thus flagged within a circumstantial framework.

The problem of economic development is therefore reduced to the entrepreneurs' capacity of removing existing resources from their current use into a new one, where those resources will be of assistance to a more efficient way of production, and/or a more efficient way of satisfying consumers' wants. This capacity depends on both forecasting a business opportunity and gathering the means for engaging in the endeavor. Firms producing under the regular economic flow are already hoarding their future purchasing power through profit accumulation, which enables them to gather future means of production. However, an entrepreneur who wishes to set up a startup, having not enough money for the endeavor, is also inhibited from borrow any means of production for beginning his new business. Thus, money becomes an essential vehicle of the process of gathering purchasing power for any new entrepreneur being able to take advantage of a foreseen business opportunity (Schumpeter, 1934).

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[31] Notice that the same reasoning applies to other societal idiosyncrasies, which are crucial for economic development, such as physical safety, administrative practices, legal frameworks, and law enforcement, which are all paramount for building trust among producers and consumers, enabling a healthy and dynamic trade environment.

The banker becomes an essential factor for economic development by being able to provide the purchasing power that entrepreneurs need for deploying new technological combinations, boosting the society's potential for exploiting existing resources under social cooperation grounded in private property and division of labor. Schumpeter (1934, p. 106) outlines these ideas by posing that "*the essential function of credit in our sense consists in enabling the entrepreneur to withdraw the producers' goods which he needs from their previous employments, by exercising a demand for them, and thereby to force the economic system into new channels*." Since economic development, as defined by Schumpeter, cannot take place without this increasing deployment of new combinations – of new ways of doing things, whether of a technological kind or organizational nature – then capital, as a mean of purchasing power is, therefore, also an agent in the exchange economy.

Noticeably, Schumpeter conceptualizes capital exactly in the same sense as posed by Karl Marx, where money begets money, by the *M-C-M* process. However, the contribution of money for economic development is trading in credit whilst aiming at financing entrepreneurs' purchasing power. Accordingly, Schumpeter (1934, p. 123) poses that the "*means of payment can only perform their capital role in the hands of private individuals*." It is thus plainly outlined the interplay between social environment and market conditions for raising money functionality to its full potential. Both, Karl Marx and Joseph Schumpeter, grasp the inseparability of the relationship between the social organization and the way of production.

However, while Karl Marx focused almost exclusively on the way that negative opportunistic behavior took place in the economy (mostly by outlining the huge abusive practices firms' engaged in for exploiting helpless laborers, particularly children); Joseph Schumpeter praised the contribution of positive opportunistic behavior for economic development. To Karl Marx, capital would be used by firms mainly for replacing a larger number of laborers with a powerful machine, which would decrease the market dimension, and disseminated suffering and misery amongst the poorest and larger social classes. To Joseph Schumpeter, the role of capital was to enable new entrepreneurs to trigger either technological change or organizational change, or both, leading the whole economy into a stage of higher quantities of goods available at lower prices, which necessarily would lead to an increase in overall living conditions. It is interesting to realize that we can no longer speak about economic development without considering social development. Remarkably, it is not possible to have economic development without increasing social cooperation. The world owes to Joseph Schumpeter the notion that, when we increase overall welfare, we are always facing socioeconomic development.

If the society provides organizational conditions enabling entrepreneurs to deploy new endeavors, then economic development occurs. Schumpeter identifies two distinct phases of economic development: (1) the innovation phase; and (2) the diffusion phase. The innovation phase refers to the deployment of new combinations that enable startups to gather monopolistic positions in the market by offering better products at lower prices. But, under a competitive market environment, imitators will follow, the diffusion phase will set in, overall production will increase, prices will decrease, and those producers who do not adapt will be decimated. The economy performs its technological leap through a process of 'creative destruction,' reaching a new stage of development (Schumpeter, 1934; Koster & van Stel, 2012).

The overall employment level emerges as a consequence of economic development. Concerning the employment of unemployed laborers, entrepreneurs will always be prone to use those available resources when engaging in their new endeavors. What happens then under a full employment situation? In the first moment, because entrepreneurs need to capture laborers from their existing jobs, real wages will increase more proportionally than the prices of goods, spurring economic activity. During the innovation phase, the demand for new funds is likely unable to be financed by existing savings, leading to an increase in the interest rates practiced by the banking industry. This increase in interest rates constitutes a braking element in the economic boom (Sousa, 1988). Since imitators will follow the steps of the first entrepreneurs, coping with the new way of satisfying consumers' needs, then those firms who do not adapt will disappear. The bankruptcies of obsolete firms will lead to an increase in unemployment levels. Thus, Schumpeter (1934, p. 21) poses that "*from our assumptions it also follows that the quantity of labor is determined by the given circumstances*."

We can depicture Schumpeter's economic theory as a big cyclone which whirls around a socio-technological center, whilst the center moves in an upward direction of increasing overall welfare. Depression is seen as a normal and healthy process that must be accepted for granting cyclical prosperity, at increasingly higher stages. For this cyclone displacement to occur money needs to play its role. Schumpeter (1934, p. 68) makes it clear by posing that "*different methods of employment, and not saving and increases in the available quantity of labor, have changed the face of the world in the last fifty years*." And we may underwrite the statement by extending it for the last one hundred years as well. Consequently, analyzing the financial ecosystem available in the economy becomes crucial for setting up a road of economic development.

Before focusing on the puzzling financial ecosystem it is important to underline a few caveats made by economics regarding Schumpeterian theory. For the theory is grounded on an intertemporal socio-technological evolution, a few important questions must be raised (Sousa, 1988), namely: (1) what is, in fact, technological progress – what are its causes and genesis; (2) what temporal gap should be considered between prior and newer economic stage; (3) since productive factors do not flow easily from inefficient firms to efficient ones, what structural changes are determinant; (4) why should a firm focuses on research and development investments, which accrues to existing production costs, instead of maximizing their profits; and (5) if the signs of the markets are the same to all economic agents what are then the microeconomic foundations for economic agents' disparate actions? Thinking about these caveats may clarify both the contributions and limitations of the financial system for economic development.

The puzzling financial system

Economics provides a theoretical framework that outlines the importance of the financial system for economic development. However, what are the constituent parts of the financial system and how its interaction with the market of goods and services happens, are two questions that economic theory did not address thoroughly.

The literature poses that financial ecosystems vary around the world, and their effects extend beyond the firms' financing process. Usually, the easier it is for firms to find a way of financing their investments, the more advanced the financial system. However, a separation between bank-oriented financial systems and market-oriented financial systems is used by researchers for investigating financial systems' strengths and weaknesses. Claessens & Klapper (2002, p. 11) state that "*in bank-oriented economies, firms often depend on a single, powerful banking relationship as a primary source of all forms of external finance, which may include both debt and equity financing*," while "*in market-oriented economies, firms often have multiple bank lenders and widely held publicly* *traded equity*." This simple distinction between existing economic systems enables to identify that different types of opportunistic behavior may take place, either by banks, by firms, or by consumers. In their study on bankruptcies around the world, the authors concluded that the combination of creditor rights with judicial efficiency leads to a less number of bankruptcies in the economy. It is thus expectable that bank-oriented economies exhibit rudimentary institutional environments comparing with those of market-oriented economies, given the highest complexity of an economic system composed of several different financial sources for firms to take advantage of.

Another approach towards the expression of opportunism within the financial system's realm was given by Modigliani & Miller (1958). The authors outlined that firms, under a rational decision-making process, engage in either, a profit maximization orientation or a maximization of market value. Although those are equivalent under certainty,[32] future profit streams are indeed always reduced to a mere probability distribution, pulling out the operational meaning of framing firms' profit maximization in their financial decision process. Unfortunately, when uncertainty comes to play, the maximization of market value overcomes profit maximization goals, particularly because risk considerations must enter the decision-making process. Among many other variables, tax effects are also considered when analyzing an investment project. Therefore, firm managers may opt for debt financing, not because firms need credit for deploying new business endeavors, but because firms are optimizing their financial structure according to their individual goals, i.e. firms may prefer financing themselves through debt rather than using internal savings. Consequently, money resources available in the economy may be used or set aside, regardless of a strict necessity for deploying new investments – i.e. firms decide between using savings or ask for money creation (credit) strictly pursuing their best interests.

Adam Smith's "invisible hand" does not always act towards overall interest. Perhaps too often, the institutional environment sets up economic agents' opportunities which lead to individual actions that do not fit collective welfare interest. Consequently, similarly to what happens regarding firms' behavior, opportunistic behavior evidenced by consumers deserves additional inquiry too. Ludvigson (1999, p. 445), in a very interesting study relating aggregate consumption behavior with liquidity constraints, concludes that "*independent variation in credit availability that is common across households will produce an additional source of volatility in aggregate consumption that is not associated with shock to conventional indicators such as*

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[32] Modigliani & Miller (1958) have shown that, if a physical asset (like bonds) yields a sure known return stream, then the cost of capital to the owners of a firm is simply the rate of interest on bonds; for firms will deploy new investments until the expected return is higher than bonds interest; thus, under certainty, pursuing a profit maximization strategy is equivalent to pursuing the maximization of market value.

income and interest rates." This result is further outlined by Carroll (2001, p. 42) mentioning that "*consumers have a powerful preference for immediate consumption*" and that "*there certainly seems to be strong evidence that many American households are now using credit cards in non-optimal ways*." The literature shows that expanding (or contracting) credit limits is enough for changing consumers' behavior, regardless of either income or interest rate concerns.

Governments usually act for safeguarding economic balance. Primarily, consumers act towards the satisfaction of their physical and emotional needs, but their actions may misdirect the market through fake signals. Consumers increase their present consumption by taking advantage of lower credit constraints. Aydin (2017) shows that credit availability significantly impacts consumer borrowing. He finds increases of 12 percent on borrowing consumption just three months after the credit wideness, being this increment of 17 percent after six months. This consumption growth leads to higher prices, spurring firms to direct investments towards products whose consumption does not have future continuity. Imbued in this spirit, aiming at preventing major economic collapses, Farhi & Werning (2013) argue that taxes should be used judiciously by governments to cool down booms, and to mitigate recessions as well.

It is interesting to note that the opportunistic behavior of consumers and firms generates economic imbalances, which are intended to be corrected by central governmental interventions. These negative effects of simple economic agents' opportunistic behavior occur daily. Therefore, it is also interesting to investigate to what extent opportunistic behavior applies to the banking industry.

Herein I am treating opportunistic behavior in a neutral sense – i.e. simply looking at economic agents' usual actions regardless of their perception of being giving a positive or negative contribution to overall welfare.

A banker only makes a living by two processes: (1) by collecting interest upon granted loans; and (2) by levying fees upon their services. Thus the banking industry has plain interest in providing both consumers and firms with loans to collect interest in the future. Moreover, to secure their interest while protecting the bank against agency problems[33] or unforeseen future events, banks even use collaterals in their loan contracts. Sooner or later, loans must be paid back, and an aggregate demand shock occurs.

The literature is widely aware that "*aggregate demand externalities hurt all agents (…) which opens the door for inefficiencies*" (Korinek & Simsek, 2014, p. 4). However, there is an important subtlety that is not intuitively perceived: the inner functioning of the banking industry is itself an autonomous source of inefficiencies. Gorton & He (2008, p. 1181) examine the effects on the economy of bank credit cycles and provide "*empirical evidence that bank credit cycles are an important autonomous part of business cycle dynamics,*" i.e. bank credit cycles are indeed a source of macroeconomic fluctuations. This happens because banks engage in an open competition with their congeners for granting credit, without knowing their competitors' credit standards. However, banks are aware of the relative performance that each competitor is reaching in the market – using publicly available information such as accounting statements. Therefore, if a given bank's competitor is doing better by granting more credit, then the bank itself is persuaded to increase its credit-granting activity. When a given competitor starts showing a lower performance, all banks in the market react accordingly, pulling off the hand brakes, and forcing the whole economy to a slow down. Relying on disparate studies, research literature shows that bank lending standards are important in explaining the aggregate economic activity.

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[33] For instance, agency problems may arise because the bank knows neither if the money loaned will be used according to expectations nor if the firm's business is going to evolve according to expectations; thus opening an opportunity window for the borrower to deceive the bank.

Perniciously, we live under a financial system that is itself a generator of inefficiencies, which always turns out impacting overall unemployment. Schumpeter (1934) argues that banks are a very important element for economic development but their credit allowance should be restrained into the fulfilling of entrepreneurs' funding needs: "*No one other than the entrepreneur needs credit*" (Schumpeter, 1934, p. 102). The author explains that there is a huge difference between granting credit to entrepreneurs and granting credit to consumers. Through a loan, the entrepreneur acquires the purchasing power which enables the deployment of new investments – new combinations and/or new productive organizations fostering economic development. The money created by banks through the granting credit process will not disappear from the economy but it will be accompanied by the new goods the entrepreneur has brought to the market. After a while, the loan will be over, and the whole economy enjoys the products, and/or the higher quantities of products at lower prices. Overall welfare improves by granting credit to the entrepreneur. Furthermore, Schumpeter (1934, p. 113) emphasizes that "*if the solvency of the banking system (…) is not to be endangered, the banks can only give credit in such a way that the resulting inflation is really temporary and moreover remains moderate*." In this scenario, fixing the economic system for preventing its inner inefficiencies is not difficult, and does not require changing our way of living either.

The most notorious attempt at changing the financial system was made by Friedrich Hayek.[34] Noticing that the use of money is too often a widely bluntly feast for the enjoyment of governments and central banks, Hayek (1976) considered that preventing euphoric inflation was of the utmost importance; since inflations – especially the bigger ones – end up triggering so much pain and suffering through severe depressions which cannot be tolerated in an advanced economy. The author argues that the purchasing power of a currency should be kept constant, for as long as possible, to maintain economic agents' reliance on it. His proposal is grounding on the possibility of opening to a wide range of banks the right to issuing different currencies, competing among them for the more stable currency. Exchange rates would be established between the disparate currencies that evolved in the market, and the general public would be driven towards preferring the more stable currency. Thus, in the end, only the best-managed currencies would reign, benefiting society's welfare. Friedrich Hayek's suggestion did not prevail, but the awareness that the existent financial system is quite inefficient keeps piling up.

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[34] Friedrich Hayek (1899 – 1992) was an Austrian economist, Nobel Prize in Economics in 1974.

Nonetheless, it is better to have an inefficient financial system than having none; because, as Schumpeter (1934) puts forth, entrepreneurs need to employ a source of purchasing power for being able to displace resources from their existing applications into new ones, making economic development happening. Thus, the financial system fosters a monopolies' reduction in the economy. Our current economic system provides some more contributions to well-being improvement. It allows the intertemporal hiatus between buying a product and paying it, whether by installments credit or by intermediating the current saving of a consumer with the excessive consumption of another (in the sense that this second agent consumes in the present more than her present income). Moreover, when the demand for investment is too high, banks may increase their loans' interest rate, which fosters firms' cautioning while deploying new investments and preventing the economy from pursuing ruinous investments. Hereupon, the financial system contributes to general economic equilibrium when unbalances are coming from either production or consumption aggregate sectors, and contributes to general economic development, despite its conspicuous weaknesses.

Indeed, the fundamental constituent parts of the economic system are the regulatory framework upon which it evolves, and the multitude of funding sources available for entrepreneurs to acquire new purchasing power as well (Bulevska, 2014). The concept of the regulatory framework can be extended to the overall institutional environment – which, in this case, embraces the general state of development regarding physical infrastructures, societal organization structures, and cultural roots. The institutional environment conditions the scope for every economic agent's opportunistic behavior, ending up defining both bonds and boundaries for the actions of banks, producers, and consumers. Nonetheless, herein I am focusing the analysis on the mechanics impacting the financial system efficiency, under a broad concept, enabling the reader to conclude on the merits and handicaps of the reality you are living in.

In the economy, the financial system acts either, as a booster or as a barrier. By now it is clear that the main contribution of the financial system regards providing entrepreneurs the purchasing power they need for deploying innovative investments. Conversely, it is also outstanding that the main hurdle imposed by the financial system to economic development is coming from its power to cause inflation. However, it is important to separate the notions of price changes and inflation, since the former comes from the regular market functioning, whilst the latter arises from a general unproductive increment of the prices of goods and services. Sometimes, monetary policies are deployed mistakenly for wrong reasons concerning price changes.

The financial system, as we have seen above, is a factor of homeostasis disturbance within the whole economic system, since normal banking industry activity will cause, by itself, the alternation of economic cycles between booms and slumps. Thus, the functioning of the financial system also explains the instability of employment levels in the economy under the institutional framework we currently depend upon. Schumpeter (1934, p. 208) outlines the effects of the interplay between the bank (which he considers the true capitalist) and the producers by stating that "*according to our view the capitalist would first have to lend his capital to one entrepreneur and after a certain time to another, since the first cannot be permanently in the position to pay interest*." Hence, banks have a deep interest in the process of 'creative destruction.' Schumpeter (1934, p. 222) also emphasizes that banks must have discernment for granting credit, because "*every new combination, to use our old expression, is exposed to an obvious danger of turning out a failure*." Successful monetary policy is thus doomed to the quite random outcome of a pool of investments. Therefore, it is not feasible that the banking industry (or a central bank, or any man) may be able to properly adjust the quantities of money available in the economy by taking arbitrary decisions, no matter what the available data grounding the decision-making process.

Analyzing the way economic agents behave and interact, and conversely to what most economists think, the signs of the markets are not the same for everyone. Opportunistic behavior cannot be ignored. Every economic agent, acting as a consumer, a producer, a bank, or a government, will always be driven by a desire for improving either their well-being or overall welfare. Moreover, opportunities are dependent on individual perceptions about circumstances at hand. Accordingly, we have to accept that those perceptions change from person to person in a given moment in time. If it was not so, then we could not explain why a given bank would start refraining himself from granting additional credit, acting before its competition even dream about it. Therefore, the link between microeconomics and macroeconomics must be performed through the moorings of opportunistic behavior, which leads the disparate economic agents to react differently when facing the same stimulus. Opportunity is not perceived by everyone, at the same time.

Summing up the evolution of economic theory

Looking at the overall theoretical evolution economics has passed through, it is possible to identify what are the main drivers of economic development, as well as its strongest setback boosters.

By focusing on economic development main drivers, we may take a few conclusions. First, according to Classical propositions, we must accept that economic development is highly dependent on both the dimension of the available market and the existence of perfect competitiveness among firms. The possibility for a person employing her skills, knowledge, and insights for taking advantage of opportunities is dependent upon those two propositions made by Classical theory. Thus, it remains clear that an institutional environment that favors the disclosure of information, the transparency between economic agents' actions, the respect for property rights, and the timely enforcement of the law, fosters trust among the society, and lays a solid ground for economic development. More recently, Khan, Zhang, Hasmi, & Bashir (2010) show that economic growth is positively associated with higher levels of trust, respect, self-determination, and lower levels of obedience. Second, accepting that consumers change their behavior according to income increases as proposed by Keynes (1936), then, when the economy reaches a stage of full employment, the only way to ensure the duration of such stage is by continuously pursuing investment activities – because, as Keynes (1936) shows, monetary policy is powerless when unemployment sets in and new business opportunities are not spotted. Third, as Schumpeter (1934) explains, technological leaps make the world moving forward, and those depend upon the widespread existence of entrepreneurs who are actively seeking a business opportunity.

Overall, economics theory plainly defines economic development as being dependent upon both the social context and the continuous deployment of investment endeavors, by persistently and creatively exploring 'new opportunities' while simultaneously working hard for exploiting 'old certainties.' Thus, economic development completely rests in three essences: labor, human creativity, and social cooperation. Under a proper organization, the whole society is fated to be more than a mere collection of individuals, since the whole, measured in happiness, is more than the sum of the parts.

But, as we have seen, economic development, under our present organization, has several setbacks. First, as identified by Classical theory, firms fostering their profit maximization goal will increase or reduce the use of the workforce according to its inherent profitability. Thus, firms will replace men for machines wherever the swap between those production factors seems to turn out a profitable outcome. Moreover, the existence of monopolies will always hinder economic development, diverting the use of capital from where it is most needed (Smith, 1776). Backhouse (2014) adds a subtle caveat by highlighting that the monopolist, acting without competition, only deploys a technological innovation after having its prior investments paid, while in a competitive market, firms will deploy the investment needed for satisfying consumers' needs wherever the opportunity presents itself. Furthermore, under Keynesian theory's assumption that aggregate consumption decreases as long as consumers' income increases, it is impossible to continue pursuing economic development without creating imbalances between aggregate production and aggregate consumption. At this point, it is important to outline that the literature, by numerous studies indeed[35] (e.g. Modigliani, 1966; Carrol, Hall & Zeldes, 1992; Carroll, 1997, 2001; Ludvigson, 1999; Japelli & Pistaferri, 2014; Aydin, 2017), not only confirms that consumers change their behavior standards along with income changes, but also highlights that consumers change their behavior facing credit limit changes, and also behave differently according to different levels of wealth – known as the buffer-stock behavior. Consequently, there remains no doubt that aggregate consumer behavior does not follow a linear pattern over time, which unhinges economic development. Finally, as Schumpeter (1934) outlines, banks misuse of credit granting will lead the economy to pursue wrong investment paths. These setbacks hurdle economic development.

Sustainable economic development demands equality between aggregate production and aggregate consumption. Economists often support the intervention of the government in the economy by arguing that when imbalances occur, only an arbitrary intervention poses the economic train back in its proper rails. For instance, when an excess of aggregate demand is detected, such as when the investment is higher than savings, then only government intervention will prevent inflation from emerging. Conversely, when an excess of aggregate supply is detected, such as when savings are higher than investment, a fall in employment rates becomes unavoidable, thus demanding government intervention.

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[35] Addressing consumption issues, Berger & Vavra (2015) evidence the differences between consumers' adjustment regarding durable expenditures during recessions and booms, finding that, proportionally, consumption on durable goods is substantially lower during recessions than during booms. Further interesting readings are Eberly (1994), Soman & Cheema (2002), Gorton & He (2008), Korinek & Simsek (2014), and Auclert (2017).

Nowadays, this equality between aggregate investment and aggregate savings is still being tried by the arbitrary path of manual intervention in the markets. If it was not so, academic and institutional research would have refrained themselves long ago from producing several economic models[36] arguing about the best government intervention to be undertaken under each particular identified circumstance. This opens a huge window for negative opportunistic behavior to come in through, at least, two different ways: (1) economic agents may take advantage of economic structural inefficiencies, since the institutional framework from which the economic agents depend upon is not scrutinized as it should; and (2) the occurrence of avoidable disputes over who's right about the best macroeconomic policy for fixing the real economic situation. This state of affairs can only drive the economy into a stalemate, which can be good for neither overall welfare improvement nor regaining economic balance.

First, if a man insists on manually controlling market functioning, then there is a stimulus for seeking the best interfering strategies. These strategies, in turn, enable fulfilling individual interests instead of focusing on a possible reorganizational form of the economy aiming at boosting welfare while precluding those unbalances from happening. The false sense of control leads to losing perspective over what it matters (i.e. pursuing overall welfare). Moreover, by extending to a few persons the power over the market functioning, society is laying a wide carpet for a small part of its members to walk free while taking advantage of others. Backhouse (2014) refers to the 'cutthroat competition' for illustrating the economic environment the United States was living by 1929, just before entering the Great Depression, where the control of fifty percent of industrial activity was in the hands of a mere 200 great corporations. In this kind of environment, economic imbalances are likely caused by the economic structure itself, regardless of any government intervention.

Second, concluding about the cause of depression is not straightforward as it may seem. Magliulo (2016) addresses the disagreement between John M. Keynes and Friedrich Hayek regarding the cause of the Great Depression (which occurred between 1929 and 1933). The author refers that "*for Keynes, the crisis was caused by an*

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[36] There are older studies constituting examples of men attempts to arbitrarily control the markets, such as Ando & Modigliani (1963), Modigliani (1966), Jorgenson (1967), Stigler (1971); Mirrlees (1976), Grossman & Laroque (1990), Bernanke et al. (1999), Ludvigson (1999), and recent ones as well, such as Parker (2011), Japelli & Pistaferri (2014), Korinek & Simsek (2014), Farhi & Werning (2013, 2016), Corsetti, Dedola, Jarociński, Maćkowiak & Schmidt (2016), or Auclert (2017).

excess of saving over investment; for Hayek, on the contrary, by an excess of investment over saving" (Magliulo, 2016, p. 31). Thus, even for an experienced and qualified economist, it may be cumbersome identifying, timely and correctly, what droves the economy into a given situation.

Interestingly, within the realm of economic development, opportunistic behavior cannot be dissociated from both, drivers and setbacks. Economic development is conditioned by social circumstances and institutional contexts. Because welfare is the outcome of socioeconomic activities, it is crucial to inquire about the causes, consequences, and developments of the two main world economic disturbances: the Great Depression and the Great Recession.

The Great Depression and the Great Recession

The Great Depression was the first major worldwide economic crisis. It loomed at the end of the 'roaring twenties,' a period of euphoric economic prosperity, propelled by unprecedented industrial growth. By the end of 1929, at the end of a decade of prosperity, the United States' economic system had become unstable. The economic instability manifested itself by the October stock market crash followed by the appearance of bank failures. By the end of 1933, total unemployment reached an astonishing and never seen before, 25 percent level. Eichengreen (2016, p. 11) poses that the "*distress in the 1930s was sufficiently widespread that commercial banks voluntarily abandoned their investment banking businesses*." Therefore, the relevant question regards understanding what was triggering such instability, leading banks preventing themselves from engaging in their usual business activities.

One direction, by which research explains the economic instability lived at the end of 1929, in the United States, rests on non-market activities. After the First World War, it was enacted a wide background of antitrust legislation aiming at protecting the economy against monopolies and monopolistic practices (Backhouse, 2014). There was an understanding that markets could break down due to wage and price rigidities supported on a view that "*mechanical forces of supply and demand did not determine prices but merely determine the constraints within which human psychology would operate*" (Backhouse, 2014, p. 103). Despite the existence of such worries and legislation, the whole industry was highly concentrated in the hands of a few big companies. For the market economy to work properly the economy must be able to absorb the aggregate savings through aggregate investment while ensuring the equality between aggregate supply and aggregate demand. But the economy was in full employment, and savings kept overcoming investment endeavors. At this stage, some economists point to the labor market inflexibility as causing unbalances, arguing that only by increasing wages could firm capture the resources they need for deploying new investments. Therefore, in their view, wage rigidities precluded entrepreneurs from engaging in new investments. Other economists suggest that the failure resided in the capital market because of its inability to channeling savings into new investments. Nonetheless, by this line of reasoning, the huge breakdown of competition caused by the growth of monopoly has caused the catastrophe. Non-market activities were the cause of the Great depression for, allegedly, a few managers had taken control over investors' wealth and were taken business decisions out of regular market pressures.

Evidence that the labor market did not fail is provided by Kaufman (2012). The author argues that during the first seventeen months of the Great Depression, from October 1929 until the beginning of 1931, "*wage rates declined by only about 2 percent*" while "*in the final eighteen months of the downturn, wage rates decline by more than 25 percent*" which poses that lowering wages in a depression might be the ignition for a race to the bottom (Kaufman, 2012, p. 518). So, the author argues that when the so professed downward adjustment in the wage rate occurred, aggregate demand sunk even sharply until the end of 1933, setting up the worsening of the crisis, not its recovery.

Looking at this line of thought it is possible to accept that both Keynes and Hayek are correct. In the first place, the huge growth of aggregate demand during the 1920s had set a path of prosperity which propelled investment to unreasonable levels. Following Eichengreen (2016), at least according to banks' perception, the investment had reached so higher levels that their managers decided to abandon their investment banking activities. Hence, if savings indeed increased in banks' vaults during the 1920s, there is no doubt that savings stopped from being used for deploying new investments, leading to a situation of an excess of aggregate supply over aggregate demand. In this sense, Hayek is right by posing that the excess of investment over saving was the cause of the catastrophe. By the same token, had people kept spending at the same pace during the 1920s, there could be no reason for the big industrial companies to put a hold on new investments. Had people continuously kept consuming at the same pace, then the usual savings would be absorbed by new investments, and the depression would not come up. These arguments give support to Keynes's proposition that the cause of the crisis was an excess of saving over investment.

A somewhat different line of thought was brought by Milton Friedman.[37]

Money is usually aggregated in broad categories that measure the quantity of money in the economy. *M2* is a money aggregate composed by physical paper and coin, plus travelers' checks, demand deposits, money market shares, and savings deposits. *M2* is thus representative of the money available for all economic agents to engage in their usual business activities. Duca (2017, p. 53) outlines that "*the cumulative decline in M2 from 1929 to 1933 was a large 33 percent*" and "*despite rising of its bottom in 1933, M2 was still 3 percent below its 1929 level in 1937*." Furthermore, Milton Friedman poses that "*beginning in the mid-1928, the Federal Reserve System, concerned about stock market speculation, adopted a monetary policy of nearly continuous restraint, despite its desire to foster business expansion;*" moreover, the "*cyclical contraction began in August, 1929, well before the stock-market crash in October, 1929*" which "*no doubt did shake business confidence and may well have produced a rise in liquidity preference*" (Ebenstein, 2012, p. 159). Notwithstanding the contributions of producers (by engaging in non-market activities), and consumers (by decreasing their propensity to consuming), following Friedman's reasoning we are persuaded to identify that the reduction in available money in the economy was truly the spark of the Great Depression.

It is interesting to notice that overall economic conditions were setting up the crises. Market departure from perfect competition might have given a contribution. Additionally, either analysis of Keynes or Hayek led to similar conclusions regarding the economy final stage where new investments were not being deployed. Therefore, focusing on solving the problem is more imperious than trying to identify who's right about what has caused so much trouble. Milton Friedman might have just fingered the wound by outstanding the role of money for unraveling the plot of the crisis. Understanding what the world has learned from the Great Depression can be uncovered by identifying differences and similarities with the Great Recession.

The literature emphasizes a multitude of factors influencing the emergence and evolution of the Great Depression. Additionally to the above mentioned, research poses a few more drivers for the crises, namely: the role of bank failures destroying credit intermediation; poorly driven monetary policy; deflation; increased default risk; and non-market factors (Duca, 2017). The Great Depression spilled over international financial markets and extended its influence into international trade. Finally, in the incubation period of the Great Depression there "*was high rates of mortgage foreclosures rooted in earlier unsustainable lending practices*" (Duca, 2017, p. 51), which was accompanied by a clear asset price boom before the economic downturn.

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[37] Milton Friedman (1912 – 2006) was an American economist, Nobel Prize in Economics in 1976.

Those are all commonalities between the two great world economic crises.

The Great Recession loomed in 2008, lasted until 2012, and evidences a few remarkably differences regarding the way economic authorities have dealt with the situation. First, and perhaps of paramount significance, *M2*, in 1937, just after the Great Depression, was 3 percent below its 1929 level, whilst "*M2 was 65 percent higher in the comparable period of the Great Recession*" (Duca, 2017, p. 53). In the Great Recession, authorities managed to prevent further losses by fueling the aggregate demand side of the economy with additional purchasing power. The author outlines technical differences about the way the Central Bank (Federal Reserve) addressed its intervention in the two crises. Nonetheless, there remains no doubt that the central bank acted more promptly as a lender of last resort in the Great Recession than what has happened in the Great Depression. Second, Duca (2017) argues that both cases are evidencing a dangerous combination of low-interest rates coupled with weak regulation of shadow-banking institutions – such as insurance companies, investment trusts, and private firms – which allowed the unfathomable growth of credit. The response given by financial policy, during the Great Recession, was focused on buttressing banks with liquidity, ensuring the regular functioning of the securities market, and aiding borrowers. Finally, the author underlines the greater degree of international coordination, regarding monetary concerns, which translated into countries' coordinated reactions, such as the coordination of interest rates between lending central banks, and the provision of fiscal stimulus packages by establishing negotiations settled through worldwide organizations, such as the G-7 and the G-20. Although the literature claims that a lot is yet to be done to prevent the emergence of economic crises, it must be recognized that the way the world responded in the Great Recession shows that something was learned from the Great Depression.

Beyond the absurd inefficiencies that always come along with economic crises, it is crucial to eliminate their possibility of occurrence, especially when considering the huge human suffering which an economic crisis entails. Past economic crises must spur our determination to deeply understand economic relationships and build welfare safeguards facing any future economic outcome that may arise. A feeling of this kind was what motivated Milton Friedman becoming an economist. It was in the year of 1932 when he took his decision. He said that "*my major problem with the world is a problem of scarcity amid plenty… of people starving while there are unused resources… people having skills that are not being used*" (Ebenstein, 2012, p. 242), thus outlining the important contribution an economist may give to our welfare, preventing pain, and enhancing well-being. However, the whole society always gives its contribution to recovering from difficult times.

On sustainable economic development

Sustainable economic development is dependent on the equality between production (the aggregate supply) and consumption (the aggregate demand). This equality must be obeyed for granting economic efficiency. Otherwise, either society is producing to waste, or society is producing below its possibilities. Analyzing economic crises puts into perspective that slumps always represent an economic stage where the society is producing less than what is possible to do for fulfilling consumers' needs. Since our present economic organization presents unavoidable economic cycles, whose severity seems to depend upon the discernment of governments and financial authorities, not only we live subject to human error judgments, as we have an overall economic template that shouts out loud for improvement. The challenge is, therefore, to find a way of consistently increasing production, while coordinating its increment with the response given by consumption. Desirably, this goal shall be accomplished regardless of direct human intervention.

Accomplishing sustainable economic development by driving the economy in the automatic pilot is something that no society has ever been able to do. In my view, opportunistic behavior plays a major role in setting up all economic relationships. Milton Friedman (Ebenstein, 2012, p. 72) illustrates this aspect by stating that "*the growing range of favors governments could give led to a steady increase in what economists have come to call rent-seeking and what public refers to as special-interest lobbying*." As we have seen, firms guide their actions by a profit maximization goal. Profitability is the main goal of the banking industry as well. Governments are made of greed as well, and laborers also develop their monopolistic efforts through unions and similar organizations. So, the society ends up competing instead of cooperating, without fully realizing that it is by the vast ability for social cooperation that economic development consolidates.

Is the present society as efficient as it can be? Economic development evolved to a point, and at a pace, which was likely considered unthinkable one hundred years ago. Nowadays, in any advanced country, a regular citizen, working as a laborer in a normal factory, enjoys a living standard that is far better than the one enjoyed by a king one hundred years ago. At home, in a developed economy, an average citizen has now several conveniences such as multiple heating services for climate control, warm water for taking his baths at pleasure, even with bubble tubes for relaxing, disparate kinds of food at his disposal, with the ability to frozen the food and unfrozen it in seconds for consumption, and a lot more comfortable clothes and shoes, comparing with those of a king one hundred years ago. The regular citizen of an advanced country enjoys now faster and more comfortable means of transportation and can communicate almost instantaneously with someone located anywhere around the globe. Mankind has reached this far. In this latter one hundred years, the world has lived wars and conflicts which precluded development from reaching higher. But, as we have seen, societies have evolved time along by being able to increase social cooperation. It is undeniable the existence of socioeconomic cooperation in the developed countries, yet society is still too bonded to competitiveness. Therefore, the socioeconomic organization we have right now is not as efficient as it can be.

As put by Marx (1867), value creation is a process accomplished by the exchange of surpluses between economic agents. Moreover, Ricardo (1817) underlines that improving welfare is dependent upon society's ability for increasingly producing goods destined to the satisfaction of wants. Thus, generally speaking, wealth and welfare are coming from labor; and, in particular, are depending upon adequately producing efforts and output for satisfying consumers' needs. It is not possible to increase overall welfare by increasing the means of production while decreasing the market for the inherent consumption. Consequently, it stands out that living under the existence of involuntary unemployment cannot be considered an efficient way of pursuing either wealth or welfare creation.

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Academic research has steadily been studying the interplay between employment, productivity, and economic development, for more than fifty years. In 1962, Arthur Okun deep dived into the theme by analyzing quarterly data, from 1942:2 to 1960:4, for the United States economy. The author found out a positive correlation between economic growth and unemployment reduction, establishing that for each 1% real GDP growth, the unemployment rate would decrease by 0.3%, considering productivity gains and labor force growth (Porras-Arena & Martín-Román, 2018), in what has been known as 'the Okun's law.' These authors outline that "*notably, Okun interpreted the relation in both directions, namely, from output to unemployment and from unemployment to output, and used the inverse of the estimated coefficient to indicate that for each pp* [percentage point] *the US* [United States] *unemployment rate increased to greater than its natural level (estimated to be at 4%) output moved away from its potential level by approximately 3%*" Porras-Arena & Martín-Román (2018, p. 3). Therefore, conversely to what is still today common practice, Okun also has set up his analysis considering GDP as the dependent variable.

Employment, productivity, and arbitrariness

This side of Arthur Okun's study, regarding the impact of employment increases in economic growth, has been somewhat overlooked by economists. It is true that, under our current economic template, employment creation is mostly dependent on firms' willingness to hire, while the creation of conditions enabling economic development may be controlled by the government (or other entities in his behalf, such as a central bank for instance). This reality pulls the focus of economists towards aiming at economic growth to foster employment creation and not the other way around. Okun's study, outlining how crucial it can be the rising of employment to enable economic growth, never reached the spotlight of academic research.

The strength and importance of the relationship between unemployment change and growth rate is underlined by an excerpt of Krugman's (1994, p. 114) work addressing the theme of economic growth: "*In fact, not only does unemployment tend to fall when the economy is growing fast (and rise when it is growing slowly or actually shrinking), the relationship is remarkably exact. (…) By the standards of the inexact science of economics, this is a startlingly tight fit. Indeed, the relationship between growth and* *unemployment is one of the few quantitative relationships reliable enough for economists to call it a "law" (Okun's Law, after Arthur Okun, an economic adviser of John F. Kennedy) without embarrassment*."

The lack of attention to the complete relationship between employment and economic growth has been compromising overall welfare and has led economists into designing economic interventional rules. Statistical results highlight the positive correlation between employment and productivity. Nonetheless, the focus is on how to generate economic growth for enabling employment creation. Therefore, in spite of Okun's finding, productivity has not been as high as possible since unemployment is a permanent reality in the world economies, thus compromising efficiency and overall welfare.

It is safe putting forth that possible productivity gains brought about by a higher employment level have been seen as a marginal policy, exclusively available within governmental measures. Beyond the inherent economics' loss, narrowing down the scope of scientific conclusions by missing this side of Okun's analysis, this stance of making employment dependent on economic growth forces economic research into focusing on how to intervene in the market activity for ensuring the highest possible levels of welfare. Furthermore, it is worth outlining that the main concern of the political economy is still how to directly intervene in the economy.

Nonetheless, men's deliberate intervention in the economy has never been consensual. In 1993, in a seminal article, John Taylor outlined the disagreement among economists on following mechanical rules while intervening in the economy. The author, focusing monetary policy rules, discloses an equation proposing that the Federal Reserve (Fed) funds rate should be adjusted according to the fluctuations of the inflation rate and real GDP (the latter around a previously defined target).[38] He argues that rules should be used more as policy guidelines rather than as a strict mechanical tool, and concludes that he has "*endeavored to study the role of policy rules in a world where simple, algebraic formulations of such rules cannot and should not be mechanically followed by policymakers*" (Taylor, 1993, p. 213).

Strikingly, Taylor (1993) considers surprising the fact that his rule (i.e. his algebraic equation) was fitting remarkably well the Fed's monetary policy when conducting its funds' rate adjustments performed during the last few years before 1993. Taylor's equation did not consider the level of employment of the economy.[39]

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[38] The equation, known as Taylor's rule, is as follows: $r = p + .5\,y + .5\,(p - 2) + 2$; where r is the Fed's funds rate; p is the rate of inflation over the previous four quarters; and y is the percent deviation of real GDP around a given target.

[39] Some economists may argue that Taylor's formula considers the output level, which is linked to the employment level. But that is not the same thing as focusing on employment fluctuation and reacting upon it. Besides this note, economic growth (measured in GDP terms) may happen while being followed by unemployment growth.

Consequently, economic policymakers have been pinching or supporting economic development according to their best judgment or luck, managing to correct eventual mistakes, and always trying to prevent detected market imbalances from severely damaging overall welfare. But economic development is far from being as strong as possible, for monetary policymakers are not concerned about creating a full-employment reality.

It is worth mentioning that academic research has already highlighted the perils of making economic development depending on human intervention. For instance, in an inquisitive study of Benhabib, Schmitt-Grohé & Uribe (2001, p. 41), the authors show "*that active monetary policy generally leads to indeterminacy and multiple equilibria and that pursuing such a policy can easily lead to unexpected consequences even in the simplest and most innocuous models, using the simplest and most standard assumptions*." Even being able to manipulate economic variables, humans are still unable to ensure the highest possible levels of welfare.

Hence, mankind has been able to reach a stage of economic development where overall social cooperation is enhanced at a global scope, yet missing the ability to ensure survival to the whole of its members. As argued in Part II, human nature leads men to seize every opportunity of improving their well-being. Therefore, a householder, an entrepreneur, a banker, or a governor, they all will be acting upon the circumstances at hand, safeguarding, first of all, their own best interest. Beyond helping us to take advantage of surroundings and circumstances, our human nature, through unleashed fear and greed, also prevents us from setting up the automatic collective rules which may ensure everyone's survival.

It is agreed that we live under an economy full of constraints, where the markets are permanently out of balanced, requiring human vigilance and intervention for guaranteeing the best level of overall welfare we can get. The policymakers' prime concern is, naturally, their well-being. Therefore, policymakers' actions are dependent upon a full range of circumstances encompassing personal and institutional settings. Hence, generally speaking, seen through the policymaker lens, increasing overall welfare is a concern that is to be dealt under a given power framework, where countless constraints are bounding policymakers' best intentions – particularly if their actions may collide with some already established power. Therefore, we will never be able to consistently build a full-employment reality under our current economic template. Thus, it is urgent assessing how to evolve our socioeconomic reality to safeguard economic efficiency and overall interests.

Building a full-employment economy

Can overall welfare be improved by ensuring full employment? Everything that is produced by society is destined to be consumed by society. Far beyond any ideological notion, fatigue and exhaustion are a reality when considering human labor. Therefore, in the first place, it makes sense that the whole society participates in the production process for it seems to be the way for reaching the highest possible total production. A widespread division of work efforts among all members of the society improves both individual productivity and individual leisure time – thus improves overall welfare. Individual productivity can be improved simply by splitting four working hours by two persons; instead of forcing only one to do the whole job while leaving the second one unemployed. Since our human well-being is measured by the amount of physical and emotional needs that we can satisfy, there remains no doubt that each human being feels better if she can consume the products she needs for satisfying her physical wants, while having free time for satisfying her emotional needs. Overall welfare can be improved by ensuring full employment.

Can individual welfare be improved by ensuring full employment? Since individual welfare is dependent on the person's capacity for fulfilling his physical and emotional needs, the answer is dependent upon individual tastes, preferences, and current purchasing power for satisfying his needs. For instance, if a man is unemployed and is currently consuming upon past incomes, refraining himself from consuming to make his money lasts as long as possible, bearably ensuring surviving, then this man clearly will improve his well-being if full employment is enacted. But, if a woman is employed, and enjoying a very good income which enables her to save a significant portion of her monthly income for future expenditures, then this person may consider that her well-being will be worse off if she is forced to give up part of her income for allowing the employment of another human being. Nonetheless, if she is earning more than enough, and she is welcoming more free time, perhaps she will end up better off by sharing her work time, albeit at the expense of a wage reduction. At the moment zero, ensuring full employment may be better for those who are wishing to work fewer hours while also considering that they are earning more than enough to satisfy their needs. But, still at moment zero, ensuring full employment may be worse off for those persons who consider that they do not have enough.

Notice that the analysis does not change if instead of making full employment dependent on laborers sharing part of their wage with an additional employee (as I did above), we might define that the most profitable firms should accept an additional employee until full employment be ensured. In this case, the entrepreneur will be immediately worse off.[40] The entrepreneur always claims that the additional wage is withdrawn from his profit margin, therefore inhibiting future investments. The end point is that we do not know if the utility gain got by the employee is more or less compensated by the entrepreneurs' loss. We arrive at, what seems to be, an economic stalemate, where overall welfare can be improved by ensuring full employment, but individual welfare, in some particular cases, cannot.

The caveat, regarding the reduction of entrepreneurs' ability for engaging in future investments, raises a threat regarding collective welfare because it presents a menace for a potential decrease in the society's future productive capacity. At this point, we may conclude that unemployment exists as a social cost that must be accepted and hopefully compensated by the enjoyments and riches brought by future economic development. Notice that we expect a welfare improvement in moment one, in the future, compared with what we have right now, at moment zero. It is thus definitely outlined that the existence of unemployment does make some economic sense if, and only if, the return the society gets from the investments deployed by firms translates into higher quantities of products at lower prices; therefore improving future overall welfare.

Theoretically, economics faces a stalemate regarding the acceptance of a full employment reality socially enacted. Classical and Schumpeterian theories, as we have seen in Part III, accept the existence of unemployment as a natural consequence of either, the firms' optimization decisions or the process of 'creative destruction.' Conversely, the Keynesian theory focuses on ensuring full employment in the economy by resorting to the government's investment when private investment is not enough. However, inefficient negative opportunistic behavior emerges in the three cases.

In this instance, the economic stalemate consolidates by the hand of negative opportunistic behavior. Firms, pursuing profit maximization strategies, are always seeking to apply monopolistic practices, which are not efficient (not to mention other negative externalities such as pollution or lobbying deeds). Governments, deploying investments just for employing available human resources, again and again, end up engaging in unproductive investments which are often better managed in private hands (Friedman, 1993; Ebenstein, 2012). The stalemate consolidates into a sort of economic accepted malfunction, to which remedies must be manually prescribed, though keeping the overall economic system as it is.[41]

It is worth mentioning that emotions play a decisive role in every economic agent decision. Since we need to produce to consume (for fulfilling our physical and emotional needs), controlling the means of production directly determines the level of immediate welfare that each human being can reach. Individually, entrepreneurs do not wish to give up any dime of profit since it always lowers their capacity for controlling the means of production. Moreover, having the government pursuing investment activities might mean having an unwelcome competitor in the market place. Entrepreneurs are afraid of losing their dominance regarding the control of productive assets. Governments, however, need to take care of unemployment levels since the society members' votes are crucial for government members to keep their status quo. Governments are afraid of losing the majority of people's trust in their services. Laborers end up crushed to a point where they just fear a real wage reduction or the possibility of losing their job, regardless of whomever they work for. Mainly because of fear, the general public reacts emotionally, while its understanding of economics' issues is reduced to a mere exchange of political opinions, which are often naked of any strong theoretical, or empirical, economic foundation.

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[40] The entrepreneur will be worse off at moment zero but, in the future, the measure has a positive value for the entrepreneur because it ensures a stable aggregate demand looking for buying the entrepreneur's products.

We have seen in Part III that our current economic system has two mechanisms that trigger economic crises: the regular banking industry activity, and the heterogeneity of aggregate consumption facing income changes. Around the world, there is an accrued amount of theoretical and empirical evidence regarding the socioeconomic efforts of each one of our economic agents enhancing their well-being (firms, householders, bankers, and governors). The result, fairly observed around the world, is an economy full of constraints (Branson, 1979; Korinek & Simsek, 2014; Farhi & Werning, 2013, 2016), where each economic element competes for overcoming the others. Firms try to control the means of production and aim at the highest possible profits. Unions try to claim the highest possible wages while lessening working hours. Governments try to levy the highest possible taxes. Banks try to profit as much as possible from interest and fees. Everyone is trying to grab the largest possible slice of the cake. Thus we have an economic system that fosters negative opportunistic behavior, leading people to mostly behave competitively.

Economic agents' behavior triggers economic crises under our current economic template. However, economic agents' behavior also builds progress. Firms also try to deploy new investments for improving consumers' satisfaction, governments try to enact laws aiming at bringing efficiency to overall economic activity, banks try to provide entrepreneurs with the purchasing power they need for deploying new investments, and laborers try to contribute with their best efforts for reaching higher professional performances. People adopt positive opportunistic behavior mostly

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[41] It is like having a cholesterol issue and taking a daily pill while keeping the same type of feeding and exercising.

when they realize that if everybody else behaves in the negative form, the whole world will be worse off. Moreover, people increasingly seem to adopt positive opportunistic behavior the happier they feel (Wagner & Ilies, 2008) and widespread happiness is seen among the society's members.

Under this unavoidable mix of opportunistic behavior, what kind of economic organization can we draw for properly dealing with the economic crisis trigger mechanisms?

The average person reasons according to regular Classical theory. Therefore, usually, people understand that employment creation is dependent upon the creation of new firms or the growth of existing ones. The creation of new firms leads to new productive units and requires the hiring of additional employees. It increases the whole society's production capacity, thus fostering overall welfare. This is a perfectly correct economic reasoning while there are unemployed resources available to be used. In this instance, the economy is not being as efficient as it is possible for it requires the existence of unemployed resources. Furthermore, the appropriateness of this line of thinking can only be followed while full employment has not been reached yet. When full employment is reached, and the economy manages to move ahead at full speed (as it happened during the 1920s before the loom of the Great Depression), economic efficiency is, therefore, the highest possible giving known technology. However, a slight improvement in the existing technology is enough for firms to act, replacing a few employees with new machines, firing some workers and, consequently, reducing the aggregate demand which is directed towards their production. Our economic template sentences the society to live under a permanent stage of unemployment, unless for a necessarily short time-window.

According to Classical theory, society needs to ensure its productive capacity for maintaining welfare. We are in doubt if the enactment of full employment results in overall improvement. Yet, we know that we must expect cyclical economic crises, and we also know that accepting unemployment can only make sense for ensuring the firm's continuous investment. Then why should we accept firms stopping investing?

The society accepts that firms must have the right to stop investing whenever they feel they might be engaging in an unprofitable endeavor. Moreover, it is considered adequate because it prevents the inefficient use of resources for mistakenly deploying assets which may produce an output that is not useful for the whole society. Thus, the supply side of the economy is safely protected by, what seems to be, rational common sense.

But the supply-side of the economy can only be functioning properly when there is perfect matching with the demand-side. Therefore, a question must be raised: and what about firms' disinvestment activities, shall we accept them as well?

When firms disinvest (i.e. firms sell productive units without reallocating the outcome of the sale), the whole society can only be better off if new investment is deployed with more advanced technology, allowing for higher productive performances at lower prices. As we have seen in Part III, when a slump comes in, disinvestment activities are the norm, which is fueled by aggregate demand decreases, and propelled by unemployment increases. Indeed, preventing unemployment from happening works as a disinvestment brake because, in this instance, firms will be facing higher levels of aggregate demand directed towards their products. Hence, the available market does not shrink so much whatever the causes of the crisis. We are in a condition of supporting a position against the blind acceptance of a reduction on overall aggregate supply since it fosters further economic unbalances.

By raising a fence for preventing disinvestment from happening, we aim at reducing the negative effects of expectations over economic agents when depression is triggered. Expectations, regarding prices (which, remember, are product exchange rates), set the tone for economic agents' opportunistic behavior on both the supply-side and the demand-side of the economy. Economic agents' wrong expectations lead to exacerbating reactions either regarding production and consumption decisions, which translate into higher reductions related to produced and consumed quantities; further deepening the slump trends. Therefore, it gathers accrued relevance analyzing the dynamics of a crisis by following the known steps of the great world crises, but under a full employment hypothesis.

The first impact is always an emotional one. As put forth by Wagner & Ilies (2008), individuals' affective states play a mechanical role for overall well-being, even regardless of conscious awareness. A general sense of happiness strongly impacts human's actions regarding their relationships, productivity, and self-efficacy. Deep in our hearts, we know that we will be better off if someone around us improves his well-being. Maybe that is why people feel persuaded to help the homeless. Far beyond a threshold of morality or kindness whatsoever, the literature extols the positive effects of affects for reaching higher professional performances in an organization embedded in a very positive emotional stage (Wagner & Ilies, 2008).

Though never tried before, it seems to be extensible into the societal organization. A nurse missionary that went on a mission to Africa, when arrived at her developed country airport returning home, confessed for a tv reporter that she felt so lucky by having born there. Individually, she felt that she could not do much for improving the welfare of the African nation where she went in while recognizing the value of the developed society organization in comparison with that of the African host country where she had been. The way we organize our world really matters. So, analyzing the effects of expectations on a depression under an enacted full employment reality becomes relevant for a complete understanding of the economic system.

On a step by step approach, I will proceed by looking at the normal evolution of any developed economy composed by the usual four elements (householders, firms, government, and banks) of any economy, which interact according to a mixture of individual and collective opportunistic behavior, aiming at the individual satisfaction of physical and emotional needs. By analyzing the sequence of economic agent's observable behavior, the reader will be able to devote your thoughts to the subject, within your critical judgment, and free from outer interference.

Let us assume we are starting from a situation of existing unemployment, with available resources to be productively used, and under a natural correspondence between production and consumption. If this is true, then the total available money allows economic exchanges to take place up to the maximum possible efficiency (i.e. ensuring that the produced quantities are traded at the expected exchange rates, under a normal economic flow). Now, the existence of available resources stimulates human positive opportunistic behavior, leading householders to look for new job opportunities, firms to consider new investment opportunities, and banks to wide up money credit lines. Governments will simply let it go. The better the private sector is doing, the higher the available tax revenue for government enjoyment, and the better the outlook for deploying public investments as well. This starting point, where we have unemployed persons while everything else in the economy is at its balanced tune, is the regular standing of our worldwide developed economies.

At this point, a larger part of the society feels that a brighter future is ahead; but this is doomed to change. For a single bank starts profitably lending more money, the remaining banking industry will follow (Gorton & He, 2008). Firms' investments keep increasing, aiming at fulfilling more and more consumer needs. Firms are employing an increasingly higher number of persons and contributing to a *pari passu* evolution of the demand side of the economy along with its supply side. If governments keep standing still, just enjoying the economic benefits of private initiative for increasing individual welfare, then the whole economy will be better off until we reach full employment.[42] When reaching full employment, everyone is feeling happy and householders start thinking about increasing their savings for obviating future unexpected events. At the same time, householders' natural positive opportunistic behavior will spring out, and the best employees will be asking for higher wages wherever an opportunity for changing employer comes in. Firms will start slowing down their investment endeavors, since good employees are now asking for higher wages, and competition is already occupying numerous market niches. Though things are still great, a feeling of caution installs in the economy.

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[42] Often, this is not the case. Usually, when overall economic well-being is improving, governments are not able to just standing still. That happens because unions encourage strikes for claiming higher wages and fewer working hours, firms' lobbies act upon vindicating private benefits which are often substantiated in their contribution to economic development (always forgetting about householders and banking industry efforts), and banks may consider to act in cartel and start asking for higher interest rates since the demand for loans is now increasing. Therefore, it is fairly awesome if a government can just keep things standing still when the economy is balanced, though facing unemployment.

This sequence was seen when both the Great Depression and the Great Recession came in. By the end of the first quarter of 2006, according to the United States Bureau of Economic Analysis, the Gross Private Domestic Investment had reached an all-time high of 2,709.74 billions of dollars. According to the National Bureau of Economic Research (the United States official authority on economic recessions), the Great Recession is said to have begun in December 2007. By the end of 2007, the fourth quarter of the year ended up reporting a Gross Private Domestic Investment of only 2,642.56 billion dollars, corresponding to a decline of 2.5 percent below the all-time high reached by the economy two years early. During the period between the beginning of 2006 and the end of 2007 firms were actually pulling out their brakes.

When the feeling of caution installs in the economy, then everyone starts acting towards protecting their assets, giving rise to pernicious consequences. Firms will refrain from pursuing further investments unless their profitability outlook pays for the perceived rising risk. In these instances, firms hardly go out to the labor market trying to hire more expensive employees. Banks, in turn, will start claiming their credits, which usually have collaterals attached; and, at the same time, banks also prevent themselves by constraining credit limits. By withdrawing money from the economy while constraining their credit lines, banks contribute even more for an aggregate demand's decrease. The overall reduction in the availability of money (exactly as previously depicted by Figure 3) causes consumption to fall short overall production, leading some firms to be unable of selling out all their products. Consequently, firm bankruptcies come out, whilst naturally extending into the financial industry.

At this moment, an increasingly stronger feeling of fear installs in the economy. Every economic agent will try to protect himself the best he can. Firms refrain from further investments and try to reduce their staff to a minimum. Fear will also install among householders whose behavior is mainly directed towards shun consumption (Carroll, 1997). Banks pursue their counterproductive efforts of protecting their loans, claiming their credits, and collecting every collateral at hand, fueling the economic fire even further. Because of fear, a huge economic unbalance sets in, catching off guard the society where we all are living in. The economic unbalance is due to the combination of the looming of a cautioning emotion among the economic agents combined with a sudden reduction of the money available for performing economic transactions.

Unemployment is a natural consequence of fear lively working in the heads of those who, directly or indirectly, have the possession of the means of production: firms and banks. According to the United States Bureau of Labor Statistics, the unemployment rate was fairly stable around 5.0 percent in the period settled between January 2000 and November 2005, where the unemployment rate reached a maximum of 6.3 percent in June 2003, and a minimum of 3.9 percent in 2000's last quarter. Specifically, the unemployment rate remained below 5.0 percent from December 2005 until March 2008, when it reaches 5.1 percent (while the crisis had officially set in by December 2007). Afterward, the unemployment rate climbed to the United States XXI century's monthly high of 10.0 percent, in October 2009, in just eighteen months. At the same time, according to the European Central Bank Bulletin (Issue 3/2015, p. 29) *"like euro area banks, US banks tightened their credit standards for loans to non-financial corporations in the aftermath of the financial tensions in 2007"*, confirming the expected economic behavior stated above, sparked by fear.

The whole society will get worse off when a recession comes in, and governments are powerless to prevent it. However, the poorest members of society will always bear extreme suffering at the expense of this economic mechanism. When the economic agents, who own the means of production, act upon fear towards the protection of their assets, their aggregate actions lead to a decline of their economic situation. By withdrawing money from the economy and reducing the aggregate demand for their products, firms and banks (firms directly and banks indirectly) preclude themselves from being successful, by self-inhibiting from selling all their products while reducing the available aggregate demand. Banks actively contribute to the slump by reducing their debtors' capacity for fulfilling the contracts between the parties. Those are moments where everybody gets worse off. The presented sequence of events does not depend upon any external abnormally which may serve as a government excuse for poor economic performance.

Nowadays, governments are actively trying to manipulate economic variables, such as the evolution of prices (inflation and wages) and the availability of money, by manipulating interest rates and controlling credit constraints (Taylor, 1993; Farhi & Werning, 2013, 2016). However, it must be outstanding that governments are powerless to prevent this sort of event under our current economic template. It is hard to believe that any single person can, properly, timely, and accurately, manipulating the crucial economic aggregate variables; such as controlling the transaction prices, defining the money available for economic transactions, and setting up the pace of private investment. That is why it is so important to look at the economic evolution under a slightly different template.

The benefits of a full-employment economy

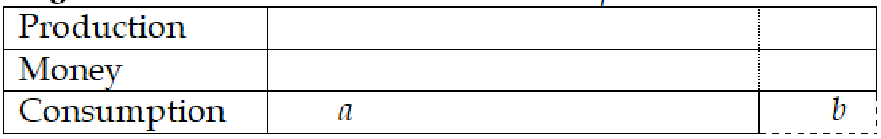
Assume, hypothetically, that the difference in the economic template is that the unemployment rate cannot go up. Again, let us assume that the economy is in a situation of moderate unemployment, with available resources to be used in productive activities, and having a desirable balance between production and consumption – i.e. between the supply-side and the demand-side of the economy. Now, when the private initiative leads the economy up to full employment, and governments manage to stand still, a cautionary stage is reached where firms refrain from pursuing further investments at the same pace, and householders start to think about saving a part of their income for preventing future eventualities. Not every economic agent acts at once. Therefore, a few firms, not foreseeing the economic slowdown and lead by greed, keep pursuing their investments, aiming at hoarding profits and/or growing their business as much as possible, hoping to overcome competition. But the economy is slowing down, and part of these investments is doomed to fail. When these investments turn out to be a mistake (i.e. when consumers do not follow through signaling firms that consumers' needs are reaching a stage of satisfaction), firms may become defaulting their suppliers and even their financial obligations towards their creditors. The economy reaches a stage of 'bliss point' where aggregate demand is growing at a smaller pace than aggregate supply. Consumers are no longer eager for more products and services, while a lot of producers are still staring at every profitable opportunity. Yet the unemployment rate cannot go up.

Because banks are still providing credit for new investments, the money available matches production value at current exchange rates (prices). However, there is no direct correspondence with the total value of consumed goods and services, which lead to economic inefficiencies. Figure 11 illustrates this economic 'bliss point' where aggregate demand is claiming being already satisfied with what producers are delivering. The excess of supply which is being produced to waste is represented by *b*. The *a* level is where the economy embraces full employment with the markets entirely balanced.

It is interesting to analyze what changes under the employment enforcement rule.

Now, part of the firms which invest too much money in overproduction (production beyond consumers' needs) is wanting to fire some employees and looking for money to completely fulfill their obligations towards their employees and their suppliers.

Figure 11 – *The theoretical economic bliss point*



However, just before the deployment of overinvestment, the economy has reached a stage where full employment and economic balance were a reality. Overproduction must have been accomplished at the expense of higher wages (i.e. above the normal full employment wage rate) since investing firms need to lure employees from competing firms to deploy their new investment projects. Therefore, the whole economy has room for a wage reduction up to the level where full employment was reached and production was matching consumers' needs. Now, instead of firing people, firms adjust by cutting down both wages and the excess of production. Firms still act for protecting their business, but relief banks from having to panic when facing overproduction. Enacting full employment supports the equality between overall production and consumption in the economy.

The continuous economic chain reactions will proceed, propelled by opportunistic behavior, until the economic balance is reached. Banks had fueled overproduction by creating additional money, and are now aiming at getting the refund of the lent money. Although banks do not have to panic regarding overall economic conditions, they are still afraid of not being completely refunded by the overinvesting firms. Therefore, banks may still be prone to claim their credits upon those firms, leading them to bankruptcies. But, the economy is still protected even when banks act upon those firms, claiming for their collaterals and shutting those firms down. Under the enforcement of full employment in the economy, those employees will be joining other firms, accepting the inherent wage adjustment, and, once again, leading the economy back to a full employment reality, sustained by a perfect match between overall production and consumption.

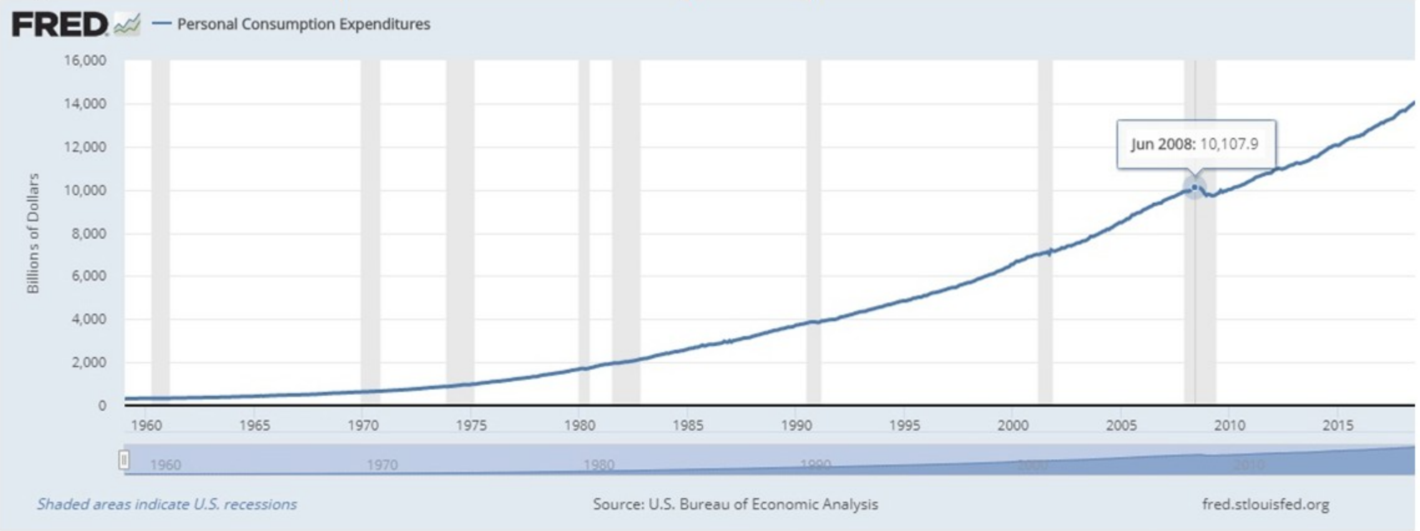
Gradually and consistently, overall economic conditions return to the prior stage of a balanced economy under full employment. Only absolute values change in the economy because a higher amount of money is available for economic transactions. But the exchange rates between wages and the prices of the products remain the same, in a similar process as depicted in Figure 5. Aggregate demand does not ever fall short its full employment level, ensuring that those who own the means of production always are, safely and continuously, producing for satisfying consumers' needs – i.e. for satisfying consumers who can pay for firms' products. By keeping employment levels, the economy is now able to secure an aggregate demand value that will boost investment at the immediate moment that firms' production falls short of that demand. Therefore, a down limit is clearly set up for any economic crisis.

Looking at what has happened during the Great Recession helps to clarify to what extent this sequence of events is accurate and representative of overall economic behavior. We have already realized that, in the United States, the Gross Private Domestic Investment has slowed down almost two years before the looming of the Great Recession. And, according to our theoretical explanation, wages should start climbing higher while private consumption should start slowing down when the unemployment rate gets to its bottom. However, according to the U.S. Bureau of Analysis, Personal Consumption Expenditures reached a fifty-year high in June 2008, at a total expenditure of 10,107.90 billions of dollars. Therefore, at least to what concerns the Great Recession events, it seems to be fair and accurate to conclude that the economic slowdown was not caused by a decrease in Private Consumption. Figure 12 shows that consumers kept growing their aggregate personal expenses until June 2008, well after the beginning of the crisis in December 2007. Consumers had never contributed to pressing out any economic brakes. That was done by both firms and the financial sector. Hence, once again it may be appropriate to outline that governments are usually not the ones to blame when difficult economic conditions set in.

It is still important to look at the overall wage behavior in the U.S. economy during the period under analysis. Since the unemployment rate has decreased below 5.0 percent from December 2005 until March 2008, the wage's behavior fits the above theoretical explanation if the unemployment decrease is accompanied by a real wage increase. Nonetheless, according to the U.S. Bureau of Economic Analysis, real wages have never gone up during the period under analysis with enough relevance to be considered impacting the events of the crisis, reaching an all-time high (back then) by Jun 2004 well before the crisis had been triggered (Figure 13).

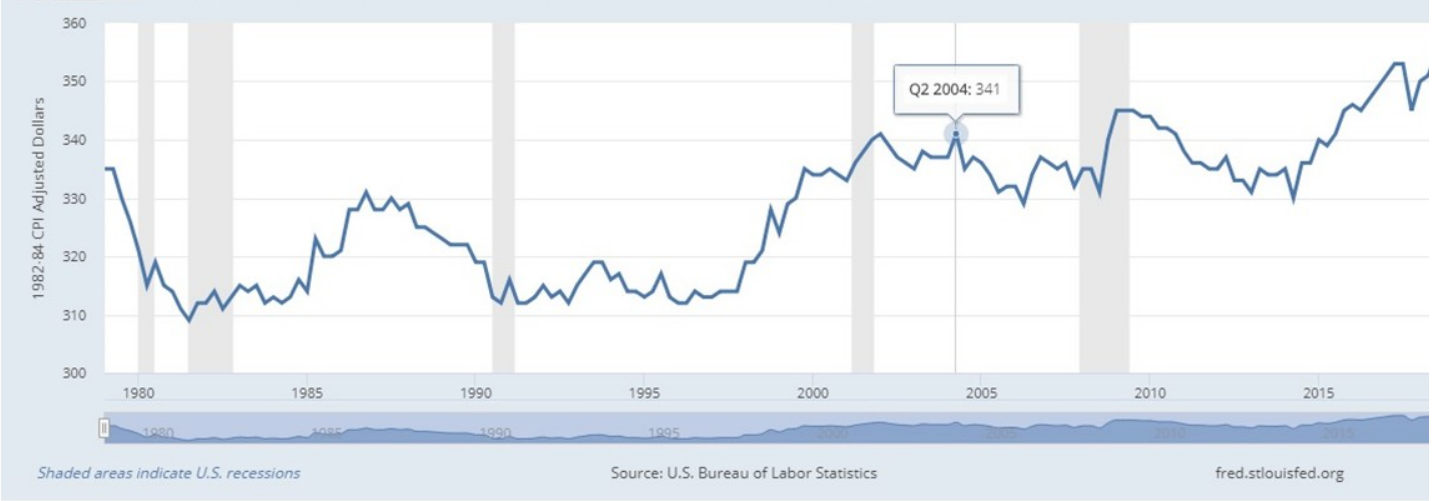
Theoretically, it is highly refutable the idea that severe economic crisis can be triggered by higher wage requests; for wages can only be paid out of money already available in the economy, and the desire of having more money to spend does not translate into any kind of pressure upon the regular economic prices (or product exchange rates).

Figure 12 – *Evolution of U.S. Personal Consumption Expenditures*



Source: U.S. Bureau of Economic Analysis

Figure 13 – *Evolution of U.S. real wages: Jan1979 – Jun 2018*



Shaded areas indicate U.S. recessions

Source: U.S. Bureau of Labor Statistics

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Empirically, we conclude that the behavior of wages did not contribute to any of the biggest economic world crisis ever seen. Since firms and banks control, directly and indirectly, both the level of production and the aggregate demand directed towards that production, it is the interactive opportunistic behavior of these economic agents the true cause of any economic crisis.

Understanding the relationships between the causes of economic crises, unemployment, and the extension of the crises themselves, is what matters for setting up an appropriate institutional framework. It perfectly stands out, both theoretically and empirically, that the main causes of economic crises are both firms' disinvestment activities and financial stress caused by aggregate money withdraws from the economy. Moreover, the direct relationship which is established between firms' disinvestment activities and the economy's unemployment rate is the result of combining strong, and protected property rights with weak, and unprotected labor rights. The world lives under an institutional framework where firms are allowed to proceed disinvestment activities wherever that seems to be appropriate for preventing further business losses while disregarding even further losses of overall welfare caused by diminishing aggregate demand as a consequence of firing employed people without giving them a productive occupation. This substantiality translates into deeper and longer periods of recession, during which, with no exception, every economic agent loses. Kaufman (2012, p. 526), after deeply analyzing the debate on the cause and longevity of the Great Depression, concludes that "*wage cuts would not cure generalized unemployment and, if anything, would worsen the situation.*" Hence, diminishing aggregate demand, either by firing employees or reducing paid wages, does not lead the economy to thrive. Overall welfare is ensured under simple enforcement of do not allow the occurrence of any involuntary unemployment situation in the economy, simply because it is the only way available for any government to make sure that consumers are always buying as much as possible, hence satisfying the needs of both consumers and producers.

Notice that there is none ideological sense in the above paragraph. In my words, there is no proclivity whatsoever towards extolling the role of firms, or the role of workers, or the role of banks, or the role of the government, for the overall welfare. It is hardly refutable that those who own the means of production should be free to dispose of them according to the best of their judgment. It is also entirely acceptable that the existence of involuntary unemployment means that the aggregate demand directed towards what is being produced is not as big as possible. If something is produced then it is going to be consumed either for the satisfaction of consumers' needs or the deployment of productive units; otherwise, it is going to waste. Hence, economic inefficiencies must loom out every time the economy exposes itself to unbalances between aggregate demand and aggregate supply. The literature outlines the tug of war between the Classical economists and Keynesian economists regarding the best economic policies for facing economic crises (Kaufman, 2012; Backhouse, 2014). Herein I stand for both of them, for it is undeniable the existence of an interdependent relationship between producers and consumers. Hence, to me, the same rationale which justifies strong property rights must justify as well the existence of strong labor rights; though we may scrutinize the effectiveness of each one of them.

Improving overall welfare depends upon every economic element. Firms, householders, banks, and governments, must all interact in such a way that allows for increasing overall production capacity, combined with a *pari passu* increase in overall consumption capacity. Economic development grounds in the cooperation between these four elements. The economic crises come out whenever cooperation is inhibited and competition is extolled. Setting up an institutional framework, where cooperation is the economy's main driver, is thus the challenge that the world is fated to overcome.

Emotional effects

Assembling an economic framework where cooperation is the norm necessarily collides with human opportunistic behavior. That is why it is widely observable the existence of multiple constraints regarding economic activity: unions claim that wages cannot go lower; firms stand to hire a maximum number of employees, and at a given wage limit; banks set forth financial constraints; and governments enact fiscal and legal obligations which are mandatory. In this regard, Henisz (2000, p. 3) poses that "*institutional environments in which economic returns can easily be secured through political channels lead individuals to reallocate resources from economic to political activity*." Human's negative opportunistic behavior hand out hurdles through the economic field, precluding economic development from acting at its full potential.

Nonetheless, emotions are the major director of overall welfare. Greed sets the pace of individual behavior based on self-interest while fear mostly fine-tunes collective actions. It is interesting to notice how greed and fear act at both the individual and collective economic levels.

Looking individually at each one of our economic elements, we perceive that: banks are interested in controlling inflation; entrepreneurs are interested in hoarding profits and growing their private business range; householders are interested in hoarding savings and expanding their real estate properties; governors are interested in raising taxes while improving their particular householder's asset range.

Greed, acting at the individual level, leads each person to set free their talents whilst focusing on what they do best. Greed ends up fueling positive opportunistic behavior for each entrepreneur individual's self-interest based acts often produce an outcome that benefits the whole society. Banks control money. Therefore they need to control inflation, for the increasing prices of the products in the economy lead banks to decrease their purchasing power. Moreover, increasing prices favor debtors at the expense of banks, since the interest rate to be paid in the future by the debtor will be easier and easier paid as prices and wages go up time along, while the bank is collecting fewer and fewer capacity for buying their wants. But banks' worries for controlling inflation end up securing overall economic agents' expectations for performing economic transactions at safe exchange rates (i.e. performing economic transactions according to their expectations regarding prices). Greed is again boosting positive opportunistic behavior of the individual householder since an ambitious person will be striving for a better job, with a higher wage, and always seeking to value himself with new knowledge and skills. Ambitious politicians end up acting in a pretty similar way as householders do, trying to do their job well, and learning as much as possible about the crucial subjects for excelling when performing their tasks. Greed mainly impacts individual proclivities.

Conversely, fear only matters when its effect extends collectively among every economic agent. For instance, when an entrepreneur gets in trouble by investing too much, beyond prudential and market limits, then their suppliers will likely feel a thwack due to the entrepreneur's default. Accordingly, caution reactions loom out across the whole firm, and investment is precluded from keeping growing at the same pace. However, if one entrepreneur's difficulty cannot be extended into others, then nothing relevant happens in the economy. The same reasoning can be extended into banks, householders and governments. Fear is a threat to economic development only when an individual's awe is extrapolated into many other economic agents, pressing collective actions into one single direction. Often, fear is the worst possible advisor of the economic agents (Lo, 2011) and acts as an economic crisis catalyzer.

The economy is dependent upon the way the society is organized for using its skills and resources for benefiting the whole of its members. The economic template, through which the society's members evolve, conditions, not only how we use our skills, but also how the society's members drive their interests and emotions while acting upon facing any given opportunity. Finally, the bigger the market, the higher the number of opportunities for economic exchanges that can come out (Smith, 1776);

the greater are both the variety of available goods and the population's real wage (Krugman, 1979); and likely increases the complexity of the proper organization of the society (Peng, 2003).

It is thus possible to schematize the interactions between the relevant economic parameters into a simple conceptual model. Figure 14 summarizes the concept that economic development can only be built upon positive opportunistic behavior. Therefore, the way positive opportunistic behavior is stimulated is the key to have sustainable economic development.

Positive opportunistic behavior requires economic agents to deal with decision-making processes. When a decision-making process takes place based on emotions, those decisions are mostly grounded on imagination. Often, the actions resulting from an emotional decision-making process are not based upon a real need that must be assisted. In this realm, for instance, the actions determined by avarice, or by precaution, are often unbalanced when they occur under emotional dominance. The role of emotions impacting the economic agents' decision-process often highlights some economics theoretical insufficiencies. Likely, Adam Smith, Karl Marx, and John Maynard Keynes were the economists that better understood these insufficiencies. However, up till now, mankind has not been able to embed in our economical organization the dominance of the reason over the emotion, raising the awareness regarding how the satisfaction of emotional needs introduces inefficiencies in resources allocations. Developing an overall organization, where mankind's collective emotional flows are properly framed, is thus paramount for a positive decision-making process.

Considering the course of the economic theoretical and empirical events depicted so far in this work, I put forth six propositions upon which a two steps evolution of the reorganization of the world economies can be drawn out. For these propositions are the cornerstones of the economic organization proposal to be presented ahead, it is important to drill down each one of them, highlighting their economic role.

Assumption 1

The first step to develop any solid theoretical concept is the identification of a set of relevant elements assuming the character of an absolute truth, which must be refuted to evidence the flaws of the theory. Damásio (1999) highlights that when we try to grasp the notion of ourselves, we come immediately to the identification of a given set of stable things, which define who we are. These assumptions define the theory of full employment.

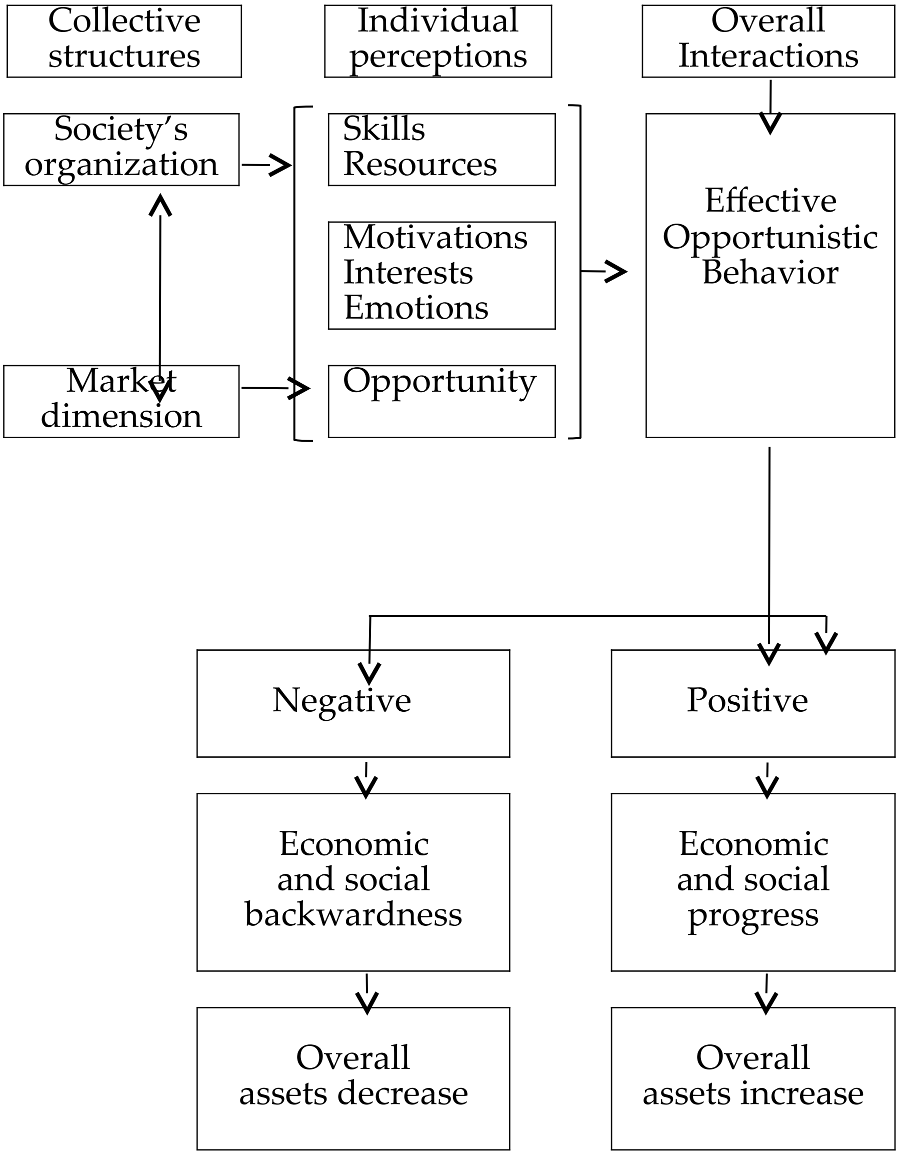
Following Damásio's (1999) guidelines, let us start with the stable aspects of this construct. The author outlines that a simple organism made of a single cell, "*not only is alive but is also engaged to be alive*" (Damásio, 1999, p. 165). In this realm, the "*desire and urgency*" for surviving have a place inside the boundaries that define a body. Damásio (1999) notices that a distinction between human beings and an amoeba lies in the awareness regarding our attachment to life; which we have and the amoeba has not. The relevance of this matter grounds in terms of the relationships that each living organism sets up with the environment that surrounds him, for these relationships, when it comes to the economic subject, definitely impact the way the disparate economic agents interact among themselves. Furthermore, Damásio (1999, p. 184) states that the existence of a coherent *"set of first-order neural patterns,"* which is always monitoring the stage of the physical structure of the organism, is the apparatus enabling our brain to continuously regulate our body, even without the existence of any awareness about its existence. Survival is thus the first need of any living body. Hence, accordingly, I propose that survival is the priority of any human being.

This proposition accrues several consequences to economic analysis. First, opportunistic behavior must have a close connection with a person's mandatory survival need. Moreover, according to Damásio (1999), emotions precede the use of reason by our brain; hence opportunistic behavior assumes primarily an emotional strand. This reality seems to legitimate the assumption that human beings act according to their own, deep and individual, set of interests before they stand up for supporting any other disparate interest. Second, despite the presence of emotionally driven economic behaviors, it is the process of reasoning that leads mankind to continuously improve humans' living conditions, by being able to cooperate with other human beings for reaching higher mutual survival possibilities. Third, any economic framework which men can deploy will be contested anytime it is not suitable to ensure the survival of the entire society. Furthermore, extending this notion into the collective interaction among human beings, if collective survival is not ensured then individual survival must be at stake. I believe that it cannot be opposed that surviving is the priority of the human being, which strongly impacts economic behavior and overall welfare.

Assumption 2

Mutual dependence always requires some sort of communication because it can only be raised upon trust between the actors of any process – i.e. each person must believe that the other will perform his role as expected. People start to preclude themselves from freeing out their emotional instincts without control while realizing that something better comes out from those decisions: their ability to survive is improving. Overall, it is hardly questionable that: (1) people living in advanced economies have better living conditions than those who live in developing countries; and (2) the number of cases of human assaults, murders, and other aggressive social behaviors increase when the society is unable to ensure

Figure 14 – *The interaction of the relevant economic parameters*



the survival of the whole of its members.[43] Social and economic cooperation is fostered through the social organization (through the implementation of a given institutional framework). Hence, the second proposition I put forth is that the highest the ability of a society to control its emotions by properly reasoning, the highest the level of economic organization the society can reach for improving overall welfare.

Regarding this proposition, it is very important to outline some additional remarks. It can never be forgotten that, as shown in Part III, prices (including interest rate, which is the price of liquidity) set the pace of economic agents' expectations which, in turn, set the quantities that each economic agent expects to produce and consume. These expectations define each economic agent behavior within her relevant temporal horizon. For instance, a consumer chooses to save part of her present income for consuming some more later on, given the price range she is expecting to deal with in the future. Similarly, a producer chooses to invest in one additional productive unit taking into account the prospects regarding the future development of the business. These temporal considerations occur when our reasoning is controlling our emotions.

There is an intimate relationship between an individual's ambition, the satisfaction of a person's needs, and the decision-making process. As Damásio (1999) outlines, pleasure is an emotion aligned with rewards, and, consequently, it can only be deferred on time through some sort of rational process. Therefore, since emotions express themselves in the first place, it is always necessary to build solid conditions for the reason to have the last word regarding human behavior, reinforcing the importance of exercising the control of the emotional side of human behavior through a proper socioeconomic organization.

Assumption 3

It is widely shown by Adam Smith that the dimension of the market limits the extent of economic development which is possible to achieve. This proposition has been contested by modern economic theorists (David, 2007; Squalli & Wilson, 2011; Montalbano, 2011; Vashisht, 2016; Huchet-Bourdon et al., 2018) based on the lack of consistency regarding empirical results on economic development when exposing the economy of a given country to world trading. It is possible to observe some cases of countries where increasing trade openness led to worsening that country's economic conditions (Montalbano, 2011). In two sentences, Yanikkaya (2013, p. 58) summarizes the problem very well: "*A common concern is that 'cheap labor' and the 'race to bottom' may be the consequence of increasing levels of integration. Thus, there have always been protectionist sentiments against trade liberalization in both developed and developing countries*." However, as stated above, the reason must take control over the emotion, enabling us with a judgmental ability to properly weigh the different elements presented during any decision-making process. Once it is undeniable that the processes of labor division and employees' specialization increase the overall productive capacity of the economy then it cannot make any sense to forget about the importance of these processes for economic development.

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[43] According to the United Nations Office on Drugs and Crime (UNODC) countries evidencing the widest gaps between rich and poor also register a higher likelihood of experiencing violent crimes, which is statistically shown by a violent crime rate that is up to four times bigger in developing countries, compared with what happens in more advanced ones.

The literature has already shown that different institutional contexts lead to disparate conclusions (Montalbano, 2011). Moreover, Yanikkaya (2013, p. 79) said it all by outlining that "*although it is impossible to deny the positive potential effect of international trade in overall economic development and poverty reduction, one should be aware that the task before us is not to maximize trade flows but to maximize the welfare of the people we work for*." Hence, the third proposition I am relying on is that the dimension of the market is paramount for efficient economic development and overall welfare.

The notion of market dimension encompasses both, the number of producers and the number of consumers. It is important to define what is relevant for analyzing the dimension of the market. We must do it by taking into account both the demand side and the supply side of the economy. When there are billions of consumers for whom a firm is a sole producer, then this firm is facing a set of consumers which is bigger enough for selling out all firm's production. However, the market is limited to the number of persons that are working for the firm. Since, in this instance, this firm is the sole producer acting in the market, then its workers are the consumers who have some money for buying anything. Hence, the market is wider according to two different variables: (1) the number of persons that the firm can employ in its productive process; and (2) the proportion of wages on total sales prices. If the firm manages to build additional productive units, then the firm will employ additional employees. Therefore, the firm will increase the number of effective consumers as well; and the market gets bigger once again. Following this reasoning, Classical economic theorists stated that demand was not relevant for economic development analysis since supply was building its demand. Hence, regardless of the number of potential consumers, it can be noticed that the dimension of the market is not big enough for propelling economic development and ensuring overall welfare when there is a diminished number of firms producing in the economy.

Assumption 4

It is thus necessary analyzing the benefits of the presence of additional producers in the market. Proceeding with the above reasoning, if one additional company enters the market, producing a different and useful product, the billions of available consumers may even be in a sufficiently large number for enabling the two firms selling out all their products. Assuming that both firms produce different and wanted products, the owners of firm *1* also want to buy the products made by firm *2*, and vice versa. Therefore, the way for each entrepreneur to get the highest possible quantities of the other firm's product is by selling out their product as dear as possible, while paying as little as possible to their employees. This will enable the entrepreneur's profits to be as high as possible and making it possible for the entrepreneur to buy the highest quantities of the product made by the other firm. By acting this way, the two entrepreneurs, owners of the firms acting in this market, will ensure the highest possible slice of the economy's total production to themselves, individually. Sadly, by doing so, these entrepreneurs also contribute to set the boundaries of the market quite shorter comparing with its potential. That is why it is often said that the regular economic activity fosters social inequality. Nonetheless, the presence of additional producers in the market is paramount for increasing the market's dimension and contributes to overall welfare improvement.

Notice that by paying as little as possible to their employees, each entrepreneur is limiting the purchasing power of the consumers that will be consuming their aggregate production. Hence, despite the presence of an additional firm, which is bringing with it an employment increase (and that translates into an increasing number of consumers in the demand side of the economy), it fosters distributive injustice though, and it also sets in a deeper desire for hoarding profits within the souls of the two entrepreneurs operating in the market.

The Classical economic theory stands that it is exactly this desire for hoarding profits that pulls out the magnificent economic development. The process, as the reader may already be figuring out, is explained by the existence of the financial system. Banks provide, to any individual who wants to become an entrepreneur, the ability to acquire purchasing power, enabling the entrepreneur to start a new business (Schumpeter, 1934), building a new production unit, hoarding profits, and fulfilling his own physical and emotional needs. Banks sell capital in exchange for having a piece of the productive capacity of the economy (in the form of interest rates). Now, by creating new money, the financial system enables the third firm to employ additional persons, contributing to the overall market dimension's increase. While firms are profitable, two things happen: new entrants come into the market; and banks will be prone to provide financing for new investments. According to the Classical theory, this process will take place until the profitability of the firms reaches zero, i.e. until the profit is so little that no one wants to become an entrepreneur anymore. Therefore, it can be no doubt that the financial system is crucial for economic development and overall welfare improvement because it contributes to increasing the available market dimension of the economy by fueling entrepreneurs' investment desires.

This simple reflection explains why different economic circumstances set up different economic development stages worldwide. Notice that the existence of a smaller number of producers in the economy, which controls all the means of production, determines the smallest possible market dimension and precludes economic development from taking place. Moreover, negative opportunistic behavior will always emerge just as long as the opportunity is presented. Consequently, banks can be prevented from lending money to new entrants just as long as the existing entrepreneurs can secure their profit margins by resorting to dubious practices, such as lobbying, corruption, and influence peddling. Negative opportunistic behavior has the same importance for economic development analysis as positive opportunistic behavior does. They both exist whenever the opportunity is given.

However, when full employment is reached, the market is as big as possible, given the number of producers operating in the economy and the wages paid. Under these circumstances, economic development will proceed if new entrepreneurs can enter the market by making better products than the existing competition does, at lower prices. In this instance, each new entrant firm needs to have the highest possible number of buyers for the whole society to benefit from the initiative. This dynamic applies even when the economy starts from only one firm producing in the economy's supply side. Hence, I put forth the fourth proposition by stating that full employment is a necessary condition for maximizing economic development. Economic development is thus magnified by the highest possible market dimension, requiring a full employment stage to be maximized.

Assumption 5

At this point, it is tempting to conceive that monetary inequality becomes a variable constraining the dimension of the market, for it means that the economy's purchasing power may be condensed on a small number of consumers; hence diminishing the available market for producers. Inequality, of any kind, brings with it differences regarding degrees of freedom to accomplish something. Hence, inequality has an inner charge of economic inefficiency due to limiting the number of persons (or the number of economic agents) able to deploy new investments.

While this late idea is generally true regarding theoretical economic development, it gets a blurred theoretical confirmation when economic agents' emotions are taken into account. It may be conceived that every person is different from another, therefore having different needs and ambitions to fulfill. Thus, it is acceptable that, despite monetary inequalities, people may be similarly happy if they are equally given the opportunity of pursuing the object of their happiness. By this token, if a man can demand a higher wage for doing hard work (such as working in a coal mine), he may be just as happier as another man who is doing a regular nine to five administrative job, albeit earning a smaller wage. In this instance, according to Smith (1776), income inequality becomes 'natural' because less attractive jobs will naturally be earning the highest paybacks. Therefore, when emotions are part of the equation, theoretically, overall welfare is not as dependent on monetary equality as it may be conceived at first glance. Following this line of reasoning, we are prone to believe that providing equal access to happiness is the key to ensuring social balance.

The exploitation of this idea becomes paramount for concluding about how to properly improve overall welfare: providing a wider sense of income equality and equal access to material resources; or providing equal access for people to reach their ambitions, which are not necessarily bounded by material concepts?

OECD[44] provides a Life Satisfaction index which intends to measure "*how people evaluate their life as a whole rather than their current feelings*." Year after year, life satisfaction is not evenly shared across OECD countries. Table 1 shows that life satisfaction improves with higher employment rates and lower rich-poor inequality index. Statistical treatment of this dataset, with a 95 percent level of significance, leads to conclude that there is a significant positive relationship between the country's employment rate and its 'Life Satisfaction' index, and a significant negative relationship between the level of rich-poor inequality and the level of the country's 'Life Satisfaction' index. Moreover, when put together, these two dimensions explain 68.3 percent of 'Life Satisfaction' index,[45] which evidences the importance of ensuring a wider market dimension for a perceived welfare improvement, whether by ensuring higher employment levels and/or by decreasing the rich-poor monetary income inequality. Consequently, it is not possible to detach overall well-being from the level of employment in the economy.

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[44] Organisation for Economic Co-operation and Development (OECD) is an international economic organization with 36 member countries (including G20), which aims at overall cooperation and coordination, stated by the organization's signature "*better policies for better lives*." Available at http:// www.oecdbetterlifeindex.org/topics/life-satisfaction/.

[45] Using Least Squares Regression, with a model of $y=\beta0 + \beta1\ x1 + \beta2\ x2 + \varepsilon$, where y='life satisfaction,' x1='inequality index,' and x2='employment rate,' and testing with a 95 percent significance level, the test returns an $R^2=0.683$, $\beta1=-0.612$ (p-value 0,000), and $\beta2=0.305$ (p-value 0.023); with Durbin-Watson test equal to 1.355. Data was collected on the OECD web site.

The role of full employment is further consubstantiated by a study of Mizobuchi (2013) who delves into the multidimensional concept of well-being by analyzing OECD's eleven topics considered essential to people's well-being, which are: (1) income (household income; household financial wealth); (2) jobs (employment rate; personal earnings; job security; long-term unemployment rate); (3) housing (rooms per person; housing expenditure; dwellings with basic facilities); (4) work-life balance (employees working very long hours; time devoted to leisure and personal care); (5) health (life expectancy; self-reported health); (6) education (educational attainment; years in education; students' skills); (7) community (social network); (8) civic engagement (consultation on rule-making; voter turnout); (9) environment (water quality; air pollution); (10) safety (homicide rate; assault rate); and (11) life satisfaction. The author relates these indicators with each country's productive base, composed of capital assets and social infrastructures. His most outstanding finding is that, sometimes, countries may register a modest well-being perception compared with their actual productive base, or, having an exacerbated perception of well-being improvement in countries of the small productive base when their governments can increase the country's performance in one of these eleven indicators.

Thus, people's perceived well-being is dependent on both, their available productive base and the socioeconomic improvements they realize are happening. Hope, itself, has happiness embodied. Enacting full employment in the economy, not only translates into a solid economic base for consolidating aggregate demand, contributing for the highest possible market dimension, but also extends its action into emotional stability of the community, which, in turn, impacts positively overall economic performance (Wagner & Ilies, 2008).

There is an intertwined relationship between the institutional aspects of a country and its economic performance. Mizobuchi (2013) evidences some of these moorings by linking a country's productive base (the country's capital assets and social infrastructures) with its people's well-being perception. However, despite realizing that economic balance requires equality between production and consumption, the proper guidance for government action is still unclear. Hence, the question: what economic variables must government handling?

Table 1 – *The relationship between employment rate, inequality, and life satisfaction*

Country	OECD Life satisfaction indicator	Employment rate	Rich-poor inequality index
Norway	7.5	74.4	1.05
Denmark	7.5	74.9	1.01
Switzerland	7.5	79.6	1.10
Iceland	7.5	86.3	1.09
Finland	7.5	69.2	1.13
Netherlands	7.4	74.8	Not available
Canada	7.3	72.6	1.11
New Zealand	7.3	75.6	1.04
Sweden	7.3	76.2	1.08
Australia	7.3	72.4	1.03
Israel	7.2	68.6	Not available
Austria	7.0	71.5	1.09
Germany	7.0	74.7	1.21
Ireland	7.0	64.7	1.04
United States	6.9	69.4	Not available
Belgium	6.9	62.3	1.01
Luxembourg	6.9	65.6	1.10
United Kingdom	6.7	74.3	1.05
Chile	6.7	62.2	1.26
Brazil	6.6	64.4	Infinity
Czech Republic	6.6	72.0	1.14
Mexico	6.6	61.0	1.20
France	6.4	64.6	1.18
Spain	6.4	60.5	1.13
Slovak Republic	6.1	64.9	1.22
Poland	6.0	64.5	1.28
Russian Fed.	6.0	70.0	1.12
Italy	5.9	57.2	1.18
Japan	5.9	74.3	1.15
Korea	5.9	66.1	1.23
Latvia	5.9	68.7	1.20
Slovenia	5.8	65.8	Infinity
Estonia	5.6	72.0	1.19
Turkey	5.5	50.6	1.15
Hungary	5.3	66.5	1.29
Greece	5.2	52.0	1.42
Portugal	5.2	65.2	1.37
South Africa	4.8	43.0	1.49

Source: OECD – www.oecdbetterlifeindex.org

Answering the question requests a definition of economic variables. First of all, the economy is balanced when production equals consumption. Moreover, sustainable economic development is achieved when a production growth is followed by a *pari passu* consumption growth. Hence, a relevant economic variable is any element of our life contributing to improving production and consumption.

It is worth posing examples of such governmental intervention. Following Schumpeter's (1934) guidelines, economic development is built upon the deployment of new technologies, of new ways of doing things, which will lead to increase production while lowering prices. Positive government intervention in the economy is thus guided by the desire of creating grounds for private initiative to take place – for instance protecting property rights. By the same token, it is not possible to sell anything unless someone is wanting to buy that product or service and being able to do it. Hence, contributing to a consistent and growing aggregate demand, which allows producers to sell their products, must be considered a positive government intervention in the economy – for instance enacting full-employment.

The third scope for government intervention lies in seeking overall efficiency; i.e. continuously fostering the best practices and interactions, for making it easier for producers to sell and consumers to buy at the lowest possible price. This requires embracing Classical theory foundations which claim for perfect competition in the markets. By limiting themselves to these three action areas (protecting property rights, enacting full employment, and seeking overall efficiency), governments can improve overall their countries' welfare mostly by ensuring that the available market for consumers and producers is as big as possible.

However, the role of the government is not an easy task. To begin with, sometimes, it is very hard to understand where the boundaries for producers' actions should be set up to grant consumers' rights. For instance, a government wishing to keep a proper balance between the producer-consumer rights relationship may find it difficult to enact a limit on fishing captures for ensuring a proper breed development of a given species. Producers still may be wanting to capture young specimens while consumers may stubbornly be wanting to consume even more. None producer or consumer care about the danger of causing the extinction of the species, jeopardizing ending up definitely with the enjoyment of its consumption. In this example, both producers and consumers may be worse off in the future if the government does not take proper actions protecting the endangered species. These actions are likely to be refuted by both producers and consumers, leading to a decrease in the government's popularity. The role of the government is not easy to play.

Governments have a crucial role in setting up the 'rules of the game' (Peng, Sun, Pinkham & Chen, 2009), inducing instead of command (Murtha & Lenway, 1994). If governments opt for command producers then they become a producer themselves and lose their government's perspective leading economic activities by providing action guidelines. If the government chooses to become a consumer, then the government jeopardizes efficiency, mainly by consuming resources that could be used in productive activities. This is also true for any other economic agent when it concerns to the environment that surrounds him. Often, producers want to become the government, engaging in lobbying activities (usually for reducing competition), and consumers want to become the government requesting higher wages and fewer working hours. Producers and consumers forget about economic balance, ignore future implications, and aim only at the biggest possible slice of the economic cake, at once. Hence, they try to make the rules, replacing the government in its role. This natural opportunistic behavior must be accepted (since we would not be humans if it was not so), but severely needs to be inhibited. However, it must be realized that producers must produce, consumers must consume, governments must rule, and they all will be acting wrong when trying to do something beyond their legitimate power.

Being aware of this division between economic agents helps to clarify what is indeed a proper government fostering economic development and overall welfare. If some sort of leeway is given to producers or consumers, enabling them to act over the government aiming at protecting their interests, then it must be expected that an economic unbalance will come out. Soon, the unavoidable outcome of giving an individual advantage to someone will come out in the form of dearer products or diminished produced quantities, lowering overall welfare. Governments must rule, setting up the boundaries for the actions of all economic agents – producers, consumers, and the banking industry – promoting economic and social cooperation, and controlling for negative opportunistic behavior.

Developed economies exhibit a social commitment regarding their government's activity. The society accepts that the government is entitled to collect taxes upon the overall society's income in exchange for the benefits provided by the government to society. Taxes may be viewed as a tool enabling governments to take a slice of the overall production (Besley & Ghatak, 2010). Governments provide several market supporting infrastructures, such as health care services, schools, energy and transportation service facilities, wide physical security to the population, and law enforcement institutions, all enabling economic transactions to take place by fostering trust and competence among the whole economic agents. Nonetheless, despite the expropriation of a parcel of a citizen's income, the government is giving back some significant value to the society.

It is worth mentioning that governments can only consume if entrepreneurs and laborers are producing something. Otherwise, there is nothing available for governments to consume. Therefore, governments must build the proper institutional context for enabling production to be as high as possible, ensuring that consumption is growing hand in hand with production. This institutional context must be raised upon a set of rules, rather than a set of productive or consumptive actions, which always translate into diminishing overall welfare, and jeopardize the economic balance.

Friedman (1993) poses that "*government is the problem*." The author outlines that even experienced managers, coming out from private companies to be part of the government, end up engaging in inefficient activities and highly questionable decisions, which translate into reductions of overall welfare. Hence, the extension to where the government is the problem depends upon the lack of adequacy of the government's rules for fostering production increments, production innovation, and related consumption stability. Therefore, the government might be the problem when there is a room for governors' negative opportunistic behavior, or when governors spur other economic agents' negative opportunistic behavior.

If the government is consuming as little as possible, ensuring justice, protection, education, and health for the members of the society, then its role will be completed by granting a match between aggregate production and aggregate consumption, done at the highest possible efficiency, i.e. producing as much as possible using the least as possible of the available resources – or at the lowest possible cost. Please note that governments are crucial for welfare production, not only by creating the proper institutional context for the development of private initiative, but particularly by producing social goods (such as security, health, education, and public and social infrastructures) when private initiative is not able to do it. Providing these goods must be done at the lowest possible cost for the entire society. Otherwise, the government is not being efficient.

Taxes and money supply are two economic variables which can be handled by governments. Often, governments can increase/decrease taxes and/or increase/decrease the availability of money in the economy. Taxes, when properly levied, will be the direct cost of the benefits disclosed by the government to society. Changing the money available in the economy, as we have already seen in Part III, has two possible consequences: (1) if money availability is increased without being followed *pari passu* with an increase in production, then prices will go up and nothing happens regarding welfare significance; and (2) if money availability is decreased, then overall consumption falls short aggregate production, and an economic crisis is triggered, as depicted in Figure 3. Thus, any economy's efficiency is highly dependent upon its government's quality.

Anytime someone is arbitrarily trying to handle the economic variables is likely trying to solve one unbalance with another one in the opposite direction – or he is going to create one unbalance right away. Moreover, it is eventually impossible to act properly, both in time and intensity, to adequately fix an economic problem. Even by developing a complex computer algorithm, it is highly doubtful that mankind will ever be able to, for instance, in a timely and well-figured manner, decrease the money available in the economy, manipulating interest rates, and preventing investment from pursuing ruinous deployments. Even under such a real possibility, the society would be exposing itself to the negative opportunistic behavior of some over-powerful man, in a situation which Henisz (2000, p. 4) characterizes as being "*at best, a zero sum game*." Hence, the fifth proposition in which I am grounding the theory of full employment is that the arbitrary manipulation of economic variables constitutes a source of inefficiency in the economic organization of any society.

Once again, I ask you to notice that I am not grabbing any ideology whatsoever. I am not claiming that a government must totally abstain from producing the goods and services the society is wanting or that private initiative is always the only way to reach economic development. I must reinforce that governments should keep their action range ruling the actions of private initiative and ensuring a number of crucial aspects for economic development, namely: (1) ensuring that the market is as big as possible – i.e., consumers are numerous and have purchasing power while producers act as much as possible close to a perfectly competitive environment, free from monopolies and monopsonies (a market with only one buyer and many sellers of a product which does not have a close substitute); (2) ensuring that public and private efficiency is pursued – i.e., public and private sales of goods and services are provided at the lowest possible cost for the society; and (3) ensuring that overall resources are preserved for future generations. However, when the private initiative is not acting properly, governments must take in their hands the responsibility of providing the goods and services the society is wanting.

For instance, remember that in the United States, though mainly provided by private entities, health care service is almost three times more expensive for the whole society than what happens in the major European countries (Ebenstein, 2012; Stiglitz, 2013). Hence, in the United States, the management of health care service is less efficient than in Europe, where it is largely provided under public management. To society, it does not matter if a given service is paid in the form of government taxes, health insurance premiums, or hospital sent home bills. What matters is the proportion of that payment in each person's income given the same service quality. And this proportion must be the smallest the society can manage. I am not claiming that firms do better than governments or vice versa. But I am saying that it is the government's responsibility to make sure that the best service, at the cheapest price, is provided to their people, regardless of if it is done by the 'right-wing' or by the 'left-wing,' by the private sector or by the public sector. By ruling properly, governments will benefit the entire society and will refrain from favoring particular interests.

Assumption 6

Since the main goal of any economic policy is to increase overall welfare at the least possible social cost, thus aiming at the efficient allocation of limited resources for providing the satisfaction of virtually unlimited wants (Sousa, 1988), then it becomes important to realize what are the main determinants of efficient resource allocation. According to Schumpeter (1934), economic development is truly dependent upon the society's ability to use individual creativity for deploying new products, new processes of production, and new ways of performing the tasks that will enable to fulfill the whole society's wants. Moreover, Smith (1776) highlights the importance of the dimension of the market to enhance the processes of specialization and division of labor to loom out, leading to lower production costs. By integrating these three irrefutable truths set up by the literature, we may be able to identify the main determinants of an efficient resource allocation economy: (1) an institutional context enabling the exploration of 'new opportunities'; (2) an institutional context enabling the exploitation of 'old certainties;'[46] and (3) a stable balance between the exploration-exploitation duality. Each one of these three determinants requires deeper analysis for thoroughly understanding how to build an efficient economy.

The exploration of new opportunities is highly dependent upon the way knowledge is acquired and widespread among society. There are two main paths used by advanced economies for acquiring knowledge: by heavily investing in the education of its society's members, either by improving overall individuals' academic knowledge or individuals' professional skills; and by fostering firms' private investment in research and development departments which aim at the deployment of new products, and new ways of producing; hopefully, for the enjoyment of the entire society. However, despite the prevalence of these two main processes by which knowledge is acquired and shared, there exists a third alternative mode which is used in our global village. This alternative consists of firms recurring to mergers and acquisitions as a strategic behavior (Nocke & Yeaple, 2007) which enables firms to acquire those strategic resources – such as know-how – which are foresight as paramount for their future survival. Delving a little bit into each one of these knowledge acquisition paths is thus required.

Each economy's ability for providing good academic education and professional skill development to their people is, primarily, a past dependent process. Academic knowledge is mostly dependent upon prior knowledge accumulation across time. Moreover, in a given country, the ability of the society to widespread academic knowledge is also dependent on existing physical infrastructures and internal social cooperation, which, once again, are depending upon past productive deployments, cultural interactions, and a continuous desire for social cooperation focusing on future welfare improvement.[47] Thus, discovering opportunities related to past knowledge transmission requires a degree of freedom for people to move from the place where they lived to the place where they can acquire academic and professional knowledge, without losing their ability to survive. Hence, a significant encircling force of the entire society is required for setting up the people's mindset on a wider exploration of 'new opportunities.'

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[46] Following March's (1991) seminal guidelines.

Increasing firms' investments in research and development departments have several grassroots regarding motivation and social framework. As Sousa (1988) outlines, if the signs of the markets are similar to every economic agent, then it is not clear what leads some firms to heavily invest in research and development departments – which, hopefully, would lead to overall welfare increases – while some other firms do not follow a similar investment pattern. We may be prone to advance a few speculations: (1) perhaps firms are profit-motivated entities which lead them to invest in research and development departments according to the specific markets available; (2) perhaps differences in firms' financial power will enable some firms investing in research and development departments while others simply cannot; or (3) perhaps some firms choose to acquire knowledge through a mergers and acquisitions strategy because they are targeting firms evidencing synergies with the investing firm – thus reducing risk while magnifying timing and profitability. Although impacting economic outcomes, both individual and collective idiosyncrasies are likely conditioning firms' investment chosen path.

If an economy is relying on private firms for knowledge disclosure then it must be accepting that the benefits of using that knowledge will be slowly distributed to the society. Since firms are motivated by entrepreneurs' self-interest, if the economy follows this path only, the way to spread out knowledge is by creating conditions for the deployment of new companies which will be started up by dissident employees coming out from previously existing firms. Moreover, society must accept that private companies will be the drivers of society's knowledge accumulation. The society is not innocent regarding the room it concedes for firms' development of new knowledge.

When a firm chooses to engage in a mergers and acquisitions strategy, assuming managers are acting rationally, it must be because that strategy presents a promising path for either, increasing present profitability, or increasing future profitability by providing present competitive advantages. Once know-how – regarding firms' mobile or non-mobile capabilities (Nocke & Yeaple, 2007) – is a crucial variable enabling firms for effectively satisfying consumers' needs, then firms' propensity for engaging in any of these investment activities must be dependent upon the dimension of the market available for their actions. In this realm, it becomes clear that increasing firms' ability to target a higher number of potential acquired firms will enable the economy to give a more efficient use of its entire know-how. The exploration of 'new opportunities' is thus fully boosted when the economy can invest in a combination of widespread academic education and professional training with a vigorous environment stimulating firms to hunt that knowledge.

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[47] The need regarding the existence of social cooperation for reaching economic success is well exemplified in the following event. Nelson Mandela, after finishing his work as South Africa's President, engaged in a personal crusade, raising funds from disparate worldwide origins for building schools and health care facilities, aiming at improving people's welfare in his country. However, at the time, South Africa's government was not following through, and the major portion of Nelson Mandela's efforts ended up being used for building facilities that were not used accordingly – i.e. schools that had neither teachers, nor educational material; and health care facilities that had no nurses, physicians, or medicines (La Grange, 2014).

The creation and enforcement of property rights are motivated by an awareness of the need to motivate innovation (Gould & Gruben, 1996). Therefore, a well-defined and enforced property rights mechanism will trigger producers' greed by securing investors' expected profits for a significant period. Thus, by acting so, society is aiming at continuously ensuring its headway. Nonetheless, the authors also outline that "*in closed regimes, protecting intellectual property may not increase innovation because the competitive framework there is inadequate to stimulate much innovation*" (Gould & Gruben, 1996, p. 324). This environmental economic need, focusing on the existence of competition among producers, is further supported by the literature. Miller (1997, paper's Abstract) poses that "*property rights imposed by political and economic elites are more likely to perpetuate their privileged status while limiting the opportunities of others*", while Maskus (2000, p. 492) states that "*indeed, it makes little sense to protect market positions both with strong IPRS* [Intellectual Property Rights] *and barrier to competitive entry*." Consequently, it is crucial to create environmental conditions that foster entrepreneurs' investment endeavors while precluding negative opportunistic behavior. The world is now aware of the importance of the institutional environment for properly framing producers' opportunistic behavior.

The exploitation of 'old certainties' presents a somehow different institutional requirement to be effective. Indeed, exploiting 'old certainties' simply means producing at full speed using existing technology. Therefore, for the sake of the economy's efficiency, the institutional environment must enable firms to produce the highest possible quantities of the products the society is wanting. According to Classical theory, this requires a perfectly competitive environment, enabling new firms to come in operating in every visibly profitable business; up to the point where available quantities satisfy all aggregate demand, at a price which is the smallest possible. Hence, the exploitation of 'old certainties,' in an efficient economy, demands a legal environment which enables competition between producers (Gould & Gruben, 1996; Miller, 1997; Besley & Ghatak, 2010), and abhors corruption, lobbying, and any other type of political ties deployed by existing firms for reaching non-market advantages or raising entry barriers against potential competitors.

A balanced economy, where the exploration of 'new opportunities' is wisely combined with the exploitation of 'old certainties,' is surely an economy evidencing the highest patterns of a well done public and private sector cooperation, which is a tricky situation to reach. Nonetheless, governments have the power to shape the institutional context faced by the economy. It must be an economy where the legal framework supports an economically healthy competitive environment, ensuring transparency regarding the products' quality available for consumption. Also, it must be an economy where existing resources are preserved and given better uses by wide-spreading overall knowledge, fostering individual creativity and self-achievement. Finally, it must be an economy where people trust each other (Khan et al., 2010), knowing that by doing their best in their fields, they are also enabling others to serve them well.

Setting up the proper exploration-exploitation trade-off is conditioned by the cultural environment as well. Schneider, González-Romá, Ostroff & West (2017, p. 476) outline the complex social interplays of organizational climate and culture by posing that "*we know now that the aggregated perceptions of people and their descriptions of the foci of policies, practices and behavior, both within and across levels, are valid for understanding team and organizational outcomes.*" Overall, a balanced economy, besides requiring equality between overall production and consumption, it also requires an institutional environment fostering positive opportunistic behavior while inhibiting negative opportunistic behavior.

Since exploring 'new opportunities' and exploiting 'old certainties' demands a strong engagement of the society embracing positive opportunistic behavior, what are then the rules enabling so? We have seen that individuals need to be able to go into places where academic education or professional training is provided, enabling knowledge to spread over the economy. We have seen as well that firms need to be able to use the available know-how, either by deploying new productive units or by acquiring existing firms. Hence, regarding overall positive opportunistic behavior for fostering economic efficiency, the proper institutional context will be build-up by enhancing the free movement of goods, services, people and capital.

It is worth analyzing what happens regarding negative opportunistic behavior if freedom is conceded for people to move where they like, to do what they like, providing that they are not allowed to oppress anyone. If people are allowed to acquire further knowledge in the fields of their choice, then an increased number of highly qualified professionals will be available; thus leading to a decrease in the price of their services. Therefore, firms will be able to hire more qualified employees at lower wages, and consumers will be able to get better products and services at lower prices. If some productive resource is available then new firms may start up new businesses, further contributing to increasing product available quantities while diminishing selling prices. In this instance, negative opportunistic behavior has two rooms for operating: (1) at an individual level; and (2) at the institutional environment.

At the individual level, the literature acknowledges that people may engage in social loafing (Earley, 1989). Collectively, cohorts of individuals or firms may also try to manipulate the institutional environment to acquire several advantages which may give them the power to oppress the remaining society. For instance, imagine a given professional association which precludes new entrants from learning the profession by collusion with the government. Then the prices of their services and exclusivity of their knowledge will enable them to ask for huge prices for their products or services, while not having to work hard or give their best when performing their economic activity – thus oppressing the remaining society.

Smith (1776) gives several examples of such blameworthy practices in the XVIII century regarding the intention of controlling competition and oppressing others. In this instance, if governments allow this sort of event to happen, then, if people are free to go elsewhere, the final result of this oppressive practice will be the oppressors lowering their prices and increasing the quality of their work. This happens because when the oppressed people are allowed to look for better living conditions in a different place, then the available market for the oppressors will shrink. At this point, these associated professionals will become truly competing among themselves for the small market now available, thus providing better services and lowering their prices. Even corrupt governments tend to be stimulated towards a positive opportunistic behavior because they will be getting less and fewer rewards by colluding with private entities. Negative opportunistic behavior of this type will be further inhibited if those who emigrate from their origin places are freely allowed to come back and embrace the professional activity of their choice.

It is thus fair to conclude that exploring ‘new opportunities’ and exploiting ‘old certainties’ is reached by embracing positive opportunistic behavior while inhibiting negative opportunistic behavior. Consequently, I state the sixth proposition of the full employment theory: the free movement of goods, services, people, and capital is a necessary condition for maximizing global economic development.

Enacting full employment

Summing up, the six crucial propositions I put forth, upon which an improved economic template is proposed ahead, are as follows: (1) survival is the priority of the human being; (2) the level of evolution of the society's economic organization is determined by the level of control exercised by reason over emotion; (3) the dimension of the market conditions the level of economic development that is possible to reach; (4) full employment, is a necessary condition for maximizing economic development; (5) arbitrary manipulation of economic variables is a source of inefficiency in the economic organization of the society; and (6) free movement of goods and services, persons, and capital is also a necessary condition for maximizing economic development.

By integrating past economic theories with the crucial notion of opportunistic behavior, I aim at identifying the general conditions which an efficient institutional environment must exhibit. Putting these assumptions together, leads to focus on fostering economic development by taking just two steps: (1) enacting full employment; and (2) ensuring the automatic and simultaneous equilibrium of the three markets – the market of good and services, the labor market, and the money market. These steps are intended to provide the society with the ability to control their members' emotional reactions, naturally inducing their behaviors towards predominantly positive attitudes through the stimulus provided by the institutional environment.

Ever since the beginnings, economics has always aimed at improving overall welfare. The societal organization, whether at a conscious level or not, has always been an issue with which the society had to deal with. A different set of rules have been set up across time for working as rigid guidelines upon which people were allowed to behave. Consequently, through ages, disparate power disputes combined with specific social interactions led to idiosyncratic societal capacities for using economic resources. Mankind's ability to pursuing economic efficiency has evolved, allowing a significant increase in both, production capacity and the number of persons who can consume that production. Therefore an increased awareness of the importance of economics for overall welfare has been growing worldwide across time.

Economics had always grounded its theories on human rationality. Nonetheless, the literature acknowledges the role of emotions in conditioning our human behavior. Lo (2011, p. 624) poses that "*too much emotion can trigger irrational behavior, but so can too little emotion*." Since economics is a behavioral science, economists cannot afford to disregard understanding of how both emotional reactions and emotional frameworks impact economic growth and overall welfare. Once emotions condition our rationality, then the strength of emotions cannot be forgotten when aiming at figuring out the most efficient institutional environment fostering economic growth.

Our major need for survival will always claim its requests. Hence, being precluded from surviving, each human will react against any oppressive practice which may jeopardize fulfilling this absolute need. As Damásio (1999) shows, emotions take precedence over reasoning, and, consequently, our first emotional reactions will be towards supporting our survival, even if detrimentally to other human beings. Because greed is a powerful emotion, the greed of some society's members will act triggering other members' fears. Only the control of the reason over our emotional state enables the entire society to continuously channeling humans' energy towards a positive path of building proper living conditions for everybody.

Fear and greed play a very important role in these dynamics. Fear is the main cause of the existence of institutional pressures for keeping the labor market unbalanced. Greed is what perpetuates the situation. It is thus crucial to understand how emotions set the pace of market unbalances.

Fear sets its rules grounding on human beings' survival needs. Because we are living in a world where unemployment is allowed, every involuntarily unemployed person presents a menace to those employees who are working. The possibility that every unemployed person might be approaching a firm, offering her work for a lower wage, constitutes a huge threat for those who are being able to survive depending on that job. Accordingly, there are two very important measures that employees manage to support: (1) wages cannot go lower; and (2) employers cannot fire employees at pleasure. This is the natural outcome of employees' need for survival screaming out loud. It is also a consequence of a plain understanding that employers' opportunistic behavior will lead firms to change existing employees for cheaper ones whenever the opportunity is given. Hence, employees, guided by fear, support every law enacting those two rules without being aware that those rules are exactly the ones precluding unemployment from being eradicated!

Employers' greed happens to act as the spring that pushes further employees' fears. Firms enjoy the existence of unemployed persons because they constitute an easy way of keeping wages under control. In this regard, because the legal framework is often setting out important labor market unbalances, Santos (2009, p. 46) highlights the importance of carefully analyzing the legal framework regarding labor rights by undertaking "*a doctrinal assessment of the respective rights, duties, and privileges of the different players in the labor market,*" and poses a question mark on employers' claims for legal labor flexibility: *"flexible for whom?"* Under an economy where unemployment is a reality, employees do not ask for higher wages because they fear being fired. Moreover, usually, unemployed people perform poorly than active workers because they are lacking skills, motivation, and proper training needed for reaching higher job performances (Lisi & Malo, 2017). Therefore, it is also unlikely that those unemployed persons will be used by any firm's competitor with an advantage regarding production costs. Hence, under the rules supported by employers, and enacted in most labor markets worldwide, firms manage to keep their good employees, preventing them from being captured by competitors, while simultaneously resting peacefully in a low wage environment which allows them to earn higher profits. We manage to build an institutional environment where fear and greed are married fulfilling, what seems to be, entrepreneurs' best interests.

However, by keeping the labor market unbalanced, with people wishing to work at less than current wages but being unable to find a job, the economy manages to set up a limit on the aggregate demand which prevents firms from selling more products, and consumers from getting lower prices. Those unemployed persons are unable to produce. Therefore, they are forced to consume from others' production to remain alive. Moreover, firms do not increase production to fulfill these unemployed persons' needs because they are not able to pay for those additional products. Hence, the whole society is living worse off, paying higher prices for what they consume while having a part of their members poor and miserable. Apart from social consequences, which impact overall welfare, firms are not producing as much as the society needs just because the society manages to exclude a portion of their members from the productive activity, against their will.

Ensuring a balanced labor market is not an easy task due to the current institutional context. If firms are allowed to firing people freely, hiring freely, and agreeing on the wage they like with their employees, then firms will always be prone to do it whenever they feel that an increase in profitability is attainable. Hence, every firm will gladly try to capture the best employees from its competitors, forcing each firm to pay a fair wage to their employees. Driven by greed, entrepreneurs will pursue a strategy of capturing employees from competitors, even at the expense of increasing wages, until it comes cheaper training those unemployed persons that are available in the labor market. This process will go on until every involuntarily unemployed person finds a job. Freedom is thus the path for ensuring a balanced labor market.

The literature, through several studies indeed,[48] extolls the positive correlation between labor market policies (either active or passive policies) and employment rates (such as direct subsidies for job creation and unemployment compensation), and suggests that governments' efforts of intentional market manipulation may be having some effectiveness for reducing unemployment rates. Particularly, Estevão (2007, p. 131) shows that active labor market policies have a positive effect on employment rates (after controlling for institutional variables and country-specific effects) and poses that "*more employment protection reduces wages, probably to keep labor attractive to employers*" while "*longer unemployment benefits boosted wages by lowering the costs of being unemployed*." Hence, governments are trying to keep employment rates as high as possible, and wages as high as possible, but their labor market manipulations have disparate results, which, I speculate, do not always translate into the economy's most needed outcome.

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[48] See Blanchflower & Oswald (1995), Estevão & Nargis (2005), and Estevão (2007).

Governments subsidize firms' job creation efforts by enacting more employment protection, thus making it less expensive to hire a new employee. Moreover, by conceding longer unemployment benefits, governments induce wage increases by reducing the number of employees asking for a job. It is unlikely that a single man can properly perform those changes, accurately and timely, according to the economy's general needs. Despite the positive impact this market manipulation may have, it is highly questionable that its effectiveness is greater than letting the labor market finding its balance.

Productivity is also affected when governments act in preventing the market from taking its regular course. For instance, Bjuggren (2018), studying the Swedish government decision of increasing labor market flexibility, concludes that increasing labor market flexibility increases labor productivity. Specifically, in Sweden, in 2001, firms were limited in their ability to choose about whom to retain or lay off when downsizing, for a last-in-first-out rule must be obeyed, were "*the last person hired is the first to be fired in the case of redundancy*" (Bjuggren, 2018, p. 138). In 2001, the Swedish parliament decided to unstring this rule by allowing small firms choosing who to let go from the three last hired persons, exempting two workers from the three with the shortest tenure. Bjuggren find out that the reform increased labor productivity. The author states that "*the results made it easier for smaller firms to retain valuable workers and to lay off less valuable ones, which could explain some of the increase in productivity*" (Bjuggren, 2018, p. 146). Indeed, the government's policies are crucial for socio-economic development, and Carl Magnus Bjuggren's study outlines the improvement of a rule which was already in course. But, conversely to what this study may suggest, increasing labor flexibility, by itself, may not be an adequate way to go.

The literature has shown that increasing labor market flexibility, making it easier for employers to firing employees, has the following economic effects: it decreases general economic productivity (Palazuelos & Fernández, 2008; McCullough, 2017); it decreases firms' innovative capacity (Lisi & Malo, 2017; Bastgen & Holzner, 2017); and, eventually, it just might increase productivity in unskilled sectors (Lisi & Malo, 2017). Moreover, in a study focused on the Spanish economy, Porras-Arena & Martin-Román (2018) conclude that increasing the number of self-employed workers, who are mainly necessity-workers who have just lost their wage jobs, decreases overall productivity. This study reinforces the prior conclusions of Palazuelos & Fernández (2008, p. 11) who, regarding the European economic regime during the period 1994-2004 fostering labor flexibility, pose that "*aside from that regressive redistribution of income, the greatest 'paradox' caused by labour reform undertaken in the name of employment creation, flexibility, and labour market efficiency has been a negative impact in labour productivity*." Therefore, increasing labor market flexibility accrues probable productivity losses and seems to have a narrowed usefulness, bounded to unskilled sectors, where the employees were already evidencing lower productivity.

All in all, the numerous studies concerning governmental labor market policies conclude that inducing a cheaper labor market decreases the economy's aggregate demand. The literature also evidences that rising aggregate demand has three levers [49] for economic development: scale, capitalization, and modernization (Palazuelos & Fernández, 2008). Consequently, labor market policies which weaken labor incomes lead to losing the opportunity of enjoying economies of scale, decreases firms' willingness to provide specific training to their employees (Lisi & Malo, 2017), and decreases firms' capacity for making additional money investments (Bastgen & Holzner, 2017). Thus, technically, according to our current economic template, it is not easy concluding over which are the adequate rules for reaching either a sustained economic growth or a consistent full employment reality.

However, the government's action extends well beyond the technical domain and reaches society's emotional structure. When working precariousness increases, then employees' survival ability is jeopardized, and entrepreneurs' available market for doing business is shortened. While survival fear can catch hold of employees, so also the fear of being unable to sell all their production can take over entrepreneurs. These fears may be exacerbated by the greed of those firms which take advantage of every opportunity to, in the short-term, decrease costs and pouch profits, without realizing that they are pressing the economy into a sure crisis – which will leave everyone, without exception, living quite worse. Economic agents' reactions can get out of control every time the government's decision-making processes induce emotional unbalances in society.

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[49] Palazuelos & Fernández (2008, p. 4) define these effects as follows: *"(a) scale effect, market increase by any component of aggregate demand, either private or public, will permit wider use of installed capacity, through the reduction of the capital-output ratio (…); (b) capitalization effect, if among the different components of aggregate demand the one which increases is non-residential investment (…); (c) modernization effect, considering a long enough period of time (…) the increase in capital stock is not constant anymore from a technological point of view; rather, levels are increased via the incorporation of technical innovations, organizational improvements, and 'learning by doing' (…).*"

Governments are paramount for removing fear, controlling greed, and setting up the pace of a properly balanced economy. Lo (2011, p. 624) argues "*that one of the most important aspects of government and regulation is to protect ourselves from our own behavioral patterns by moderating extremes of fear and greed*." Since the enactment of full employment has never existed anywhere, we have to rely on theoretical analysis to conclude on its effectiveness controlling the society's emotional state.

Fear is the prime emotion setting up the current labor market institutional context. Medrano (2010, p. 6), studying labor unions' strategies in trade negotiations, points out that "*their final positions on specific trade agreements (…) simply tells us that they will normally demand welfare and labor rights compensation for trade liberalization concessions*." Therefore, to begin with, fear must be the target of any institutional context reconfiguration regarding the labor market. I see no better way of removing fear from unions' hearts but to enact full employment. By enacting full employment in an economy the government will be able to ensure the ability to survive to every member of the society. Knowing that no matter what, the society will get together for ensuring each one of its members the ability to survive, is what has brought mankind this far. That is what, in the first place, has separated the society of hunters from the society of shepherds, and the latter from the society of husbandmen. By enacting full employment, a government can remove fear from the persons' minds while fostering trust among the community. In this instance, we all be knowing that we can fulfill our responsibilities to one another. Moreover, firms will benefit from having the biggest possible aggregate demand eagerly looking for consuming their products and services. Therefore, generally speaking, firms will gladly welcome the idea of securing the dimension of the available market for selling their products. Nonetheless, greed is now posing a problem.

By enacting a full-employment economy, governments will remove the fear problem away, but enhance the greed general contestation, which must be dealt with wisely. The greed problem comes out from every element of the economy: firms, householders, and the banking industry. Employed householders will start thinking about having to share a portion of their current income with some additional employees; which is something they naturally do not want to. Firms will be contesting having to accept to pay the wages of additional employees, claiming that the employment of additional employees will force them to decrease their future investment possibilities. Furthermore, firms will claim that their productivity will be decreasing upon this measure since laborers' outcome per capita will be lower than the existing one. Finally, the banking industry will stand against the enactment of full employment for fearing the reduction of the capacity of their existing borrowers to fulfill their credits – being those either firms or householders. Following Damásio's (1999) guidelines, I state that emotions always take the first step before rationality being able to satisfy all our needs.

Thus, the general problem that the society will be posing to the government after the announcement on intending to enact full employment is: "Who is going to pay for it?" And all the members of the society are shouting out loud: "Not me!" However, the entire society is already paying for the absence of a full employment reality – and paying a lot, indeed.

Social contestation will loom out against full employment because the public is not aware of the price paid for the acceptance of unemployment. Notice that everything that is produced must be consumed, either for the immediate satisfaction of consumers' needs or for being used in productive units; otherwise, it is going to waste. Consequently, firms are only able to produce the highest quantities at the lower possible prices if the market is big enough, allowing for the division of labor, specialization, and the exploitation of economies of scale – i.e., by the deployment of bigger productive units which, usually by using larger machines, enables firms to produce more at lower production cost. Therefore, bigger markets are good for firms' businesses, for overall productivity, and general welfare. Accepting the existence of unemployment does not contribute to increasing the dimension of the market.

Householders' welfare is compromised by the existence of involuntary unemployment by, at least, two different ways. First, since everything that is produced must be consumed, unemployed persons must survive by consuming what employed householders are producing. Either by stealing or by depending upon relatives for surviving, the truth is that unemployed persons are living upon the production of employed people – whether the society chooses to realize it or not. Second, since firms are not producing as much as possible, nor at the lowest possible prices, then consumers are not having as many products as they would like while paying dearer the products they are consuming. Even the banking industry is thus conditioned in its ability to approve credit lines to firms because these are always closely connected with the firms' perspectives for succeeding in their investments – and these are surely better when firms enjoy a wider market for selling their products.

Finally, under an involuntary employment reality, the government is collecting fewer taxes than it would be possible because taxes depend upon the gross domestic product of the economy; and the gross domestic product may be improved by employing the available human resources. The entire society is already paying for the existence of involuntary unemployment, but the entire society will likely speak against the government that chooses to enact full employment.

When the government decides to enact full employment, it faces difficulties for the acceptance of the measure. Suchman (1995, p. 574) states that *"organizations seek legitimacy for many reasons, and conclusions about the importance, difficulty, and effectiveness of legitimation efforts may depend on the objectives against which these efforts are measured."* Therefore, even when enacting something that is destined to improve overall welfare, an entity may have to face opposition from those who think that their private interests will be sacrificed. Moreover, the author, in his seminal work, explains that when an entity is trying to gain legitimacy – i.e., trying to gather acceptance for its actions – then it must conform to demands (respond to its audience needs), conform to ideals (produce proper outcomes), and conform to models (by mimicking standards). I cannot think of a better ideal for a government to argue than the one presented by improving the entire society's welfare. Moreover, I am pretty sure that sensing general economic improvement corresponds to the government's audience needs. Therefore, the only reason precluding a government from enacting full employment is dependent on the model of management upon which the measure will be implemented. Once the society understands the benefits it will be gathering from these guidelines, governments will be able to raise measures for stimulating positive opportunistic behavior while inhibiting the negative opportunistic behavior that will come out from those who are thinking that their prevalence may be at stake.

Suchman (1995) poses that this sets a dispute between continuity versus credibility, which may be consubstantiated in a need for gathering active support; for which the whole society must recognize the value of this new organization. Consequently, suitably detailed rules for enacting full employment may be culturally specific. I do believe that this step must be left at the choice of each parliament because each government must know, better than anyone else, what will be the best way to reaching its goal.

It is thus necessary to explain the benefits, explore the possibilities, and exploit the productivity which will be brought out by enacting full employment. Once the equilibrium in the labor market is ensured, the possible models for its enactment are not very important by themselves, just as long as each model fits its community standards.

There is a parallel between the government-firm relationship and the firm-laborer relationship regarding the goal of reaching higher levels of output in the economy. Besley & Ghatak (2010) developed an analytical model to infer how the institutional environment provides overall incentives for firms' (producers) committing efforts. The authors consider "*four main aspects of how property rights affect economic activity,*" namely: 1) expropriation risk; 2) producers' costs inherent to defending their properties under an insecure property rights environment; 3) easiness of profiting from trading production; and 4) the use of property in supporting other transactions, such as financial market transactions (Besley & Ghatak, 2010, p. 4528). In their study, the first result achieved by the authors is that "*labor supply, output, and profits are strictly decreasing in* τ;" where τ stands for either taxes, confiscation, or stealing (Besley & Ghatak, 2010, p. 4528). In this instance, the labor supply represents the entrepreneur's committed efforts for increasing her production. Thus, analyzing the problem through the entrepreneur's lens (the simultaneously sole laborer and producer of the economy in this simple model), higher taxes create a disincentive to commit efforts, enabling a reality where the entrepreneur is spurred to divert resources from productive to unproductive uses. Hence, if the government fails to protect property rights – i.e. a too high amount of firms' total production is lost upon either confiscation or stealing – then productive efforts are reduced. Similarly, if overall entrepreneurs take too much of their entire production to themselves, then laborers are likely to reduce their productive efforts when performing their working duties towards their employers. Following Besley & Ghatak's (2010) model, the Appendix exhibits the analytical development leading to this result regarding the firm-laborer relationship.

Therefore, when wages are small, employment does not increase in the economy and productivity remains compromised, for aggregate demand is constrained and laborers' efforts are meager (Goldsmith, Veum & Darity, 2000). Santos (2009, p. 98) highlights that "*when the share of labor costs – such as wages and labor protections – in the firm's total costs is small, the labor demand tends to be inelastic*." Hence, if we look at τ as the portion of labor efforts that do not translate into employee's welfare, then the higher the τ, the lowest the laborer's commitment effort. Since labor efforts are crucial for overall productivity, the entire society's welfare is dependent upon an adequate income distribution.

Nonetheless, it is paramount to deeply understand both the value of enacting full employment and the importance of granting the economic agents a free decision-making process. Full employment has a tremendous value to any society, at least at three different dimensions: (1) market dimension is improved; (2) productive capacity is improved; and (3) overall social welfare is improved. Additionally, freedom acts properly as the social spring which boosts positive opportunistic behavior, leading naturally to the most efficient allocation of existing resources within any economy. It is thus mandatory to further scrutinize their combined effect in an economy.

Across time, the literature has been outstanding the importance of aggregate demand for a healthy economy, where supply balances demand and vice versa. Recently, Palazuelos & Fernández (2008, p. 4) pose that "*aggregate demand is the key variable which fundamentally determines both the tendency and the rate of growth of labour productivity*." Moreover, it is worth noting that firms' willingness to acquire products or process innovations increases when employment protection measures are introduced in the economy (Bagsten & Holzner, 2017). However, the ability to provide economic agents with a wider degree of freedom to take economic decisions is paramount for reaching the highest productivity standards. Firms need time to get to know their workers' productivity (Bjuggren, 2018), and, as put by McCullough (2017, p. 139) "*it is clear that wage employment brings higher annual returns to participants than does self-employment*." Finally, Lisi & Malo (2017) outlined that temporary workers might be less motivated to learn firm-specific skills while firms are not prone to provide on-the-job training to temporary workers. Therefore, using temporary workers implies a reduction in overall productivity. These results confirm that the economy thrives under a wider degree of freedom conceded to both firms and employees, where firms are allowed to dismiss less productive employees and workers are allowed to choose between wage-employment and self-employment. The literature is standing out that the cumulative effect of ensuring full employment might, simultaneously, provide a significant contribution to boost economic development by inducing both, firms and employees, to rely on their best efforts for engaging in productive activities.

We have already seen how full employment decisively contributes to improving the overall productive capacity of an economy. Summing up, this happens because the economy's aggregate demand is kept as big as possible, enabling firms to deploy extra actions of specialization and division of labor, which brings a very meaningful macroeconomic improvement.

Moreover, at the microeconomic level, the institutional environment may evolve to extoll the most powerful positive opportunistic behavior of every economic agent. Particularly, if the government is able to build an institutional environment where firms are allowed to freely firing employees and freely choosing the amount of wage to pay to their employees, while laborers are ensured of remaining employed no matter what happens in the economy, then productive behavior will be exploited to its full potential (see Appendix for analytical explanation). We will be under an employer-friendly legal framework, which maximizes the bargaining power of employers (Santos, 2009). If firms are not forced to keep an employee which is untalented or even a social loafing practitioner, then the firm will surely be better off by being able to dismiss that employee while seeking another one. Conversely, an environment where the employee can quit a job at will, and looking for another one which better matches his talents and ambitions – while being sure that he will not be unemployed – may be considered an employee-friendly legal environment. This process will continue until employers and employees both find their best matches. Therefore, under a full employment reality, this freedom for firing or quitting jobs freely while ensuring employment to all active laborers leads the economy into a final stage where firms and employees are more productive indeed, benefiting the entire society.

Another form of full employment's contribution to increasing productivity arises from the reduction of the number of working hours. When the society is able to produce the same amount of produced quantities as before while conceding people more free time to dedicate to their personal life, then people will be focusing part of their deeds practicing their favorite hobbies; which opens up a wide range of new market niches and encompasses accrued consumers' needs to be fulfilled by entrepreneurs. If employees can quit their existing jobs at pleasure, and looking for the job that best fulfills their inner talents, then, as the literature outlines, not only they will feel happier but they also will reach higher professional performances (Wagner & Ilies, 2008).

Overall, social welfare is improved based on productivity, trust, and individual expression. In this regard, Schumpeter (1934) extolls the qualitative side of the economy as being determinant for its development. The increased productivity enables society to increase the quantity of produced goods and services for satisfying consumers' needs. This is a straightforward consequence of enacting full employment. Trust is built upon an accrued sense of security which has several origins. First, the removal of fear from the economic agents' hearts regarding their ability to survive brings a peaceful environment where people, in order to stay alive, do not need to steel anymore – and do not need to accept any kind of abuses either (whether these abuses may come from an employer or an employee) – whilst being able to conduct their own lives (or the lives of their firms) the way they choose to. This brings up the expression of positive opportunistic behavior while inhibiting the looming of negative opportunistic behavior, once it will be now presenting an unacceptable threat to this sense of well-being. Therefore, trust is built upon overall positive opportunistic behavior and the inner certainty of the society that negative opportunistic behavior will be punished. Finally, the freedom that each person will have to freely express their talents will constitute a very important add-on to the society’s certitude: the confidence that the professional standing before the consumer is likely as good as the best in his field. Hence, overall welfare will certainly be significantly improved by enacting full employment in an economy.

Building a constraints-free, market-balanced economy

The success of this endeavor rests on the ability to build an institutional environment where freedom for positive opportunistic behavior is the norm. Since there seem to be no doubts on the benefits of enacting full employment in an economy, the troubles arise from the ability of the society to find the proper way of putting it in place. Therefore, this is a specific problem which deserves deeper analysis and requires the deployment of conversation efforts between every economic agent to successfully be overcome.

For instance, entrepreneurs may be pointing out that, by enacting full employment, laziness will install in the economy since no laborer will be feeling a need to provide their best efforts to his employer. This worry stands laziness as a form of negative opportunistic behavior, which must be inhibited. Hence, a possible rule for inhibiting laziness can be set up by allowing firms to fire freely while forcing the employee to accept a new job in a different employer, but with a wage decrement comparing with his last salary.

Possibly, reacting to this last example, unions may be claiming that, in this proposed economic environment, firms will start firing their employees for getting huge wage reductions at the expense of the laborers. Again, fear of negative opportunistic behavior stands up and asks for inhibition. Therefore, a possible rule for embracing the interests that seem to be apart is by allowing employees to freely quit their jobs and move to a new one. In this regard, employees get to freely quitting their jobs and freely negotiate their wages with a new employer. Hence, the process allows any employee to seek the best for himself without being afraid of having no jobs available. This way, bad employers will be punished by losing their best employees to competition and be forced to look for their replacement at a higher wage; thus inhibiting firms’ eventual negative opportunism.

Consequently, stimulating the positive opportunistic behavior of firms and employees (seeking their best interests), while inhibiting negative opportunistic behavior of both employers and employees (taking advantage of others) is possible, but the proper rules must come out from a wide debate among the entire society.

It is thus clear that the legal framework has a huge impact on setting up the institutional environment where the economic agents interact. It is also plain that it is not easy to define an adequate set of rules and regulations which may properly serve the whole population. Notice that the real world is a little more complex than the one just mentioned above.

For instance, usually, people do not want to move far away from their current home and will be demanding employment at their homeland. Without considering if it is suitable to a standstill according to the most efficient use of available resources, people will surely claim against the wage reduction that will follow when the number of available persons is too large for the production needs. However, this number of persons may be too little elsewhere, simply requesting a person's will to move to another place where it is possible to earn a higher wage.

People are driven by the will to improve their living conditions. Hence, giving people the freedom to move wherever they want will always balance the economy. Each person will be able to strive for their best interests, making them act in supporting the whole society's best interest as well. Although governments face a difficult task, the regulatory institutional context must be drawn out in a positive tone, without losing perspective of the benefits that the whole population will be grabbing, and ensuring no preferences towards any particular fraction of the population. The proper regulatory environment provides a fruitful economic interaction between the whole members of society.

Regardless of any specific package of regulations that may be of each government's choice, the most relevant economic effect which will be reached is ensuring the balance of the labor market. As the literature outlines, it is not possible to have an efficient equilibrium in the market of goods and services without ensuring the equilibrium in the labor market. If the labor market is unbalanced with the existence of involuntary unemployment, then the market of goods and services is unbalanced as well. It is worth remembering that, in this instance, at the existing available resources, it is possible to increase production for the satisfaction of unemployed people's needs, while decreasing the price of those products up to the point where wages decrease, and involuntary unemployment is nullified. Hence, only by ensuring full employment it is possible to have a simultaneous equilibrium in both the labor market and the market of goods and services.

Building an economic development path is highly dependent upon ensuring the biggest possible market, where surpluses are produced and the exchange of those surpluses takes place, creating value for every society's member. Moreover, given our human opportunistic nature, man always aims at taking self-advantage of the surrounding conditions, making the role of the existing formal and informal rules highly relevant for ensuring overall welfare.

One specific mental path which is often used by economists for reasoning upon economic issues is to think in terms of opportunity cost (Sousa, 1988). The concept of opportunity cost is the loss of other alternatives once a given alternative has been chosen; i.e., the potential loss a person (individually or collectively) experiences because his resources are already being used in a given way, while some other option could have been taken instead.

For instance, if an entrepreneur is using his money for investing in a new production unit where he expects to earn an annual return of 5.0 percent, he must consider that the gain of this option will be computed against the alternative use of his money – i.e. if a bank savings account is earning 4.0 percent, the entrepreneur of this example is having a gain of just 1.0 percent considering the alternative use for his money. Looking through the eyes of this entrepreneur, the opportunity cost of pursuing the annual 5.0 percent investment is the loss of 4.0 percent in a savings account. The investment will proceed if the entrepreneur considers the return of 1.0 percent enough for bearing the risk of his endeavor; otherwise, the entrepreneur would choose to leave his money on the 4.0 percent savings bank account.

Opportunity cost is a concept which helps economists finding out the most efficient use for the available resources.

Following the notion of opportunity cost, it becomes relevant to weight what are the community gains emerging from a society where employment is dependent on entrepreneurs' will versus what are the opportunity loss if the society can ensure full employment. Similarly to the above-mentioned example, we have to weigh the benefits of one option versus the benefits of the other to conclude which one is the best for increasing overall welfare.

Let us focus on the utility gains which are provided to the community due to depending on the private initiative for the deployment of new investments. When employment is totally dependent on entrepreneurs' will for the creation of new jobs (which was the case under the Classical theory dominance – from the feudal era until the end of the Great Depression), entrepreneurs are entitled to close any business activity whenever they think appropriate, firing the employees they do not need anymore, and freeing those resources to someone else who can give them a better use. Therefore, a different entrepreneur may pick some unemployed persons and use them in a new production unit (which can only be successful if this new endeavor is going to produce something valuable for the market). By having human resources available, the private initiative may contribute to employ unemployed persons and, since competition is increased in the markets, even contribute to lowering the products' selling price; thus enhancing overall welfare.

The maximum investment amount the efficient entrepreneur will be willing to do is limited to the availability of a market where he is going to sell his products. New investments must provide a higher return than the one he is getting by simply putting his money in a banking savings account. The higher the number of unemployed people, the smallest the market available for new private initiatives to take place. Therefore, the potential gain for the community by relying on the private initiative is closely related to the availability of consumers for buying firms' products; i.e., the gain is limited by the available market dimension.

Following this reasoning, where the society relies solely on private initiative for employment creation, Schumpeter (1934) states that economic cycles are but a consequence of the adjustment process inherent when new entrepreneurs start-up producing better products at lower prices, and old entrepreneurs are forced to firing employees once they are not being able to secure enough revenues for paying their wages. Hence, by setting up a maximum gain, which is related to the market's dimension, the community will necessarily experience periods of a slump which will provide the opportunity for new technological leaps to come up. Therefore, one additional gain the society earns by relying on the private initiative for employment creation is certainly this impulse towards innovation by using creativity.

A possible alternative is highlighted by Keynes (1936). This author points out that we cannot rely solely on the private initiative for the deployment of new investments because entrepreneurs will not engage in new investments when the dimension of the market is not big enough. For instance, investments will not follow through if their return perspectives are lower than a mere bank savings deposit. Therefore, in these circumstances, he suggests that governments must replace entrepreneurs, and thus enabling the market dimension to increase by employing those unemployed persons. Now, employment is not dependent on entrepreneurs' will anymore. Still, it requires an evaluation of the gains acquired by society coming out from this new reality, to allow concluding over the efficiency of this resource allocation.

Under this reality, the society is not relying exclusively on the private initiative for pursuing full employment, but it seems to be relying exclusively on the private initiative for the production of the goods and services which will satisfy consumers' needs. Keynes (1936) disclosed that some contemporaneous economists of his time asked him what the government would do when all bridges, harbors, roads, and other public facilities were already built. Keynes (1936) replied that the same type of question could be posed towards the private initiative asking what firms would do when consumers were all satisfied and the economy ensuring a full employment reality. Keynes's (1936) worries are mainly driven towards ensuring that the market is big enough for keeping the private initiative ongoing. After the Second World War, the world has evolved acknowledging that it is up to the government to ensure a level of general employment which must be big enough for allowing the normal flow of production to be drained out through the consumption channels.

There are some significant differences between the two hypotheses. This new Keynesian reality allows the society to score a similar gain just as relying solely on the private initiative for ensuring full employment, because firms are still allowed to firing the employees they like, and closing their business activities if they choose to. At the same time, technological leaps, as posed by Schumpeter (1934), still have room to happen since the deployment of new productive units is mostly dependent upon entrepreneurs being able to find a market for their products once they have found a way of overcoming competitors while satisfying their markets. In both cases, the private initiative has more room to act because the market available is bigger for absorbing additional production. Hence, by ensuring that the aggregate demand is as big as possible (instead of letting it shrinks), the society is earning a higher gain than just by simply relying on private initiative to safeguard full employment.

Looking at both hypotheses (relying solely on the private initiative for ensuring full employment versus embrace government intervention in the economy creating additional employments when private initiative is not enough), we may now apply the opportunity cost analysis. Weighting the gains obtained in each case, we are easily driven to conclude that the socioeconomic reality we are living in right now (in this post-Keynes era) is better than the reality lived before the Great Depression (in the Classical era). Hence, regarding the efficient resource allocation of both labor and capital, I am persuaded to restate that the first step to moving an economy into an advanced stage of development is by ensuring full employment. Table 2 enumerates the items under analysis and compares their inner utility to society.

However, one big snag must be considered when society relies on the government for ensuring full employment in the economy. Milton Friedman (1993, p. 1) outlines that "*government is the problem*" reporting a whole range of issues where negative opportunistic behavior appears in governors' actions. Nonetheless, in this particular instance presented by the scenario of having the government completing the number of jobs for ensuring full employment, it is quite likely that a significant part of this workforce will not be producing as much as they actually can; or, even worse, a parcel of these employees may even be dedicated to non-productive activities. If this is the case, the economy is not being as efficient as it can be.

Table 2 – Employment: 'private initiative only' versus 'government help'

1. Employment left to private initiative to be taken care of	**2. Employment responsibility endured by both private initiative and the government**	> < >	**Explanation**
Firms may be created and closed according to entrepreneurs' will	Firms may as well be created and closed at entrepreneurs' will	>	Although it may appear that the society is under a similar situation in '1' and '2' it is not unlikely that, in the second case, the number of closed firms will be lower once the markets are bigger; thus providing some buffering effect for firms in financial distress.
Firing and rising unemployment	Firms may fire employees and unemployment may increase as well	>	Although it may appear that the society is under a similar situation in '1' and '2' it is not unlikely, that, in the second case, the number of unemployed persons will be lower because government will be replacing some of the jobs lost in the private sector.
New firms creation	New firms may be created as well	>	New firms creation is potentially higher under '2' because firms will have a bigger market to operate.
Using creativity	Using creativity is possible as well	<	Although firms may start new productive units as well, it is possible that, under a situation where unemployment does not exist, fewer persons are propelled towards starting a new business, since they are likely employed and earning a sure income.
The use of resources goes on up till where is really necessary	The use of resources is proceeding a similar path as in '1.'	=	Firms will be deciding the quantities of goods and services to be produced according to the same goal of satisfying consumers' needs.
Productivity per capita	Overall productivity per capita is similar as in '1.'	>	Although it may appear that the society is under a similar situation in '1' and '2', in '2' firms are able to increase their scale of production for they are serving a higher number of consumers with purchasing power.

From '1' to '2': >, a welfare improvement is likely,
<, a welfare decrease is likely,
=, likely overall welfare stays identical

In spite of this alert regarding the government's possible inefficiency, looking at Table 2 we may be persuaded to conclude that the opportunity cost of letting unemployment to increase according to the private initiative will is too high. A significant add-on to this idea may be considered if we remember that higher room for employment variation leads to exacerbating slumps in the economy. Thus, theoretically, we are prone to hypothesize that overall welfare will be higher when employment is supported by both, the private initiative and the government, rather than when it is left alone at the mercy of entrepreneurs' will. Therefore, an empirical confirmation is required to reach a solid conclusion.

According to the theoretical comparison established in Table 2, we can empirically observe a positive relationship between the levels of employment and productivity, as well as between the levels of employment and income. However, it is also possible that a negative relationship can be found between the level of employment and the use of creativity in the economy. Despite creativity presents itself with an inner issue of subjectivity, it is reasonable to expect that an economy, where people use creativity for engaging in new business activities, evidence an increasing number of listed companies. Therefore, following Table 2 theoretical guidelines, I expect to empirically verify a negative relationship between employment and the number of listed companies.

Looking for online available data sources, I manage to collect data from the World Bank (data.worldbank.org) regarding worldwide unemployment, GDP per capita and listed domestic companies, all from 1950 to 2017. The data was collected for 264 countries worldwide. However, not all the countries reported annual unemployment rates, nor have records for GDP per capita or the annual number of listed active domestic companies for the entire period under analysis. Thus, I was forced to consider only those countries which have disclosed the crucial statistical information to the World Bank, which, in the end, has limited the analysis into 61 countries around the world. Further data was collected from Our World in Data (OurWorldinData.org) regarding worldwide average annual working hours per person engaged, for allowing computing productivity as being the ratio between GDP per capita and average annual working hours per person engaged. The description of the variables and the procedures of analysis are detailed in the Appendix.

Summing up, a linear regression analysis was used to test the hypotheses. The regression model follows a simple specification of $y = b_0 + b_1 x + \varepsilon$, where unemployment is the independent variable x.

Accordingly, three models were used to test the hypotheses, where y stands for each of the dependent variables, namely: productivity, GDP per capita, and the total number of domestic listed companies. Because unemployment is the predictor, and following prior guidance provided by the literature, I have used one year lagged values between each of the dependent variable and the predictor for ensuring the direction of causality (e.g., Chen, Li & Shapiro, 2012). Specifically, we are interested in being able to evaluate what is the impact on the economy of a variation in the unemployment levels. Table 3 summarizes the hypotheses, models, expected relationships, and confirmed relationships.

Results are pretty solid, being statistically aligned with the theoretical exposition. However, results confirm both, hypothesis 1 (b_1=-0.207, p=0.000) and hypothesis 2 (b_1=-0.218, p=0.000), but do not confirm hypothesis 3 since b_1 is negative (-0.051, p=0.105) in Model 3, with p-value approaching the 90 percent significance level. The correlation, between the three dependent variables and the predictor unemployment, is negative and statistically significant in all three cases. Hence, the negative relationship between unemployment and the number of domestic listed companies strongly suggests that the use of creativity is further stimulated in the economy when full employment is the norm, leading to the creation of new firms. Moreover, there is a negative correlation between average annual working hours and GDP per capita, exhibiting a value of -0.549, which is statistically significant (p<0.01).

Table 3 – *Hypotheses, models, expected, and confirmed relationships*

Hypothesis	**Model** $y = b_0 + b_1 x + \varepsilon$	**Expected relationship**	**Confirmed relationship**
Lower unemployment rates will lead to higher productivity in the economy	*y*, productivity *x*, unemployment	$b_1 < 0$	$b_1 < 0$
Lower unemployment rates will lead the economy into higher GDP per capita	*y*, GDP per capita *x*, unemployment	$b_1 < 0$	$b_1 < 0$
Lower unemployment rates will lead the economy into a lower number of domestic listed companies	*y*, listed firms *x*, unemployment	$b_1 > 0$	$b_1 < 0$

The result supports the ideas spread out by Roser (2019) who claims that people in richer countries work less and productivity increases along with working-hours decreases.

In Model 3, the Adjusted R^2 scores -.006, meaning that, despite the existence of a statistically significant and negative correlation between unemployment and the number of listed firms in the economy, the number of existing firms in an economy is surely explained by several other variables rather than by unemployment.

However, Model 1 shows an Adjusted R^2 of .220 while Model 2 exhibits an Adjusted R^2 of .247, meaning that the reduction of unemployment in the year *n-1* explains the positive variability of both GDP per capita and productivity in the year *n*. This is a very important result because the variability of the economy’s total income in a given year is explained by prior employment levels in more than 20 percent.

It is now clear that assuming the elimination of unemployment will result in a positive effect on both productivity and GDP per capita while contributing to overall welfare in a multitude of ways and scopes which go far beyond the threshold set by material boundaries. Overall, results are pretty straightforward towards favoring step one of the herein theory, clearly supporting the importance of the aggregate demand dimension for building sustainable economic development, and underlining that neglecting the economy’s employment level has a huge opportunity cost.

Despite the complexity of the economic process, to reach a perfect balance, it is understandable the need of a perfect match between those who want to buy a good or service and those who wish to sell it. This balance, though, is often disturbed by economic agents’ behavior trying to take advantage of each other, all aiming at grabbing the bigger slice of the cake – i.e., every economic agent, without exception, are always trying to earn the highest possible income in order to be able to consume more than everyone else from the total available production. Ambition and opportunism get together, hand in hand, driving economic agents’ minds, and, therefore, leading human rationality to do the actions that will fulfill every person’s physical and emotional needs.

For reaching their own individual goals, individuals use both positive opportunistic behavior and negative opportunistic behavior, providing that the developing actions are promising a good reward. Thus, economic balance is often at stake.

The equality between supply and demand, though often assumed to be an irrefutable truth, is rarely seen in the economy, no matter the markets we are looking at. Branson (1979) outlines that, although it is always true that the total sold quantity of a product or service must be equal to the total quantity bought of that product or service, that does not mean those closed trades represent the total quantity which both producers and consumers were wishing to trade at that price.

This late mismatch was further analyzed by the author. Branson (1979) cited the analyses of Patinkin and Clower who gave clear examples of such market disorders. The former noted that when there is a surplus of goods and services offered in the economy, preventing firms from selling all their production, firms will decrease their demand for labor; while the latter underlined that involuntary unemployment in the labor market entails a lower demand in the market of goods and services. Therefore, a restriction in the quantities comes out inhibiting economic agents from trading a given product as much as they wish at its current price. Constraints impact economic agents and preclude transactions from taking place at the desired quantity for a given price. When some type of rationing is present in the economy, impacting a given market, the remaining markets will be feeling its impact as well; and will be out of balance for sure.

It is thus necessary to identify the conditions that a market must exhibit to be correctly balanced. First, since everything that is produced should not be to waste, it is required that total production equals total consumption for every kind of product and service. Second, firms must produce the largest possible quantity of the final product for a given use of the available resources because, otherwise, either firm could produce more using the same resources or firms were wasting resources in their production process. Third, trades are performed at the lowest possible price; otherwise, either the consumer was running out of budget though wishing to consume more, or the firms were wishing to sell more once the price is so appealing. A balanced market is an economic space where production equals consumption and, at the equilibrium price, both producers and consumers fulfill their wishes regarding the traded quantities.

If producers and consumers are meant to be always satisfied regarding the traded quantities at a given price then, when anything changes concerning production conditions, firms must be able to vary the price of their products to sell their wished quantities according to the demand they will be facing. This way, firms adapt their selling price for enabling the outflow of their total production, while consumers will be buying exactly everything they wish at the settled price; otherwise, either firm could increase marketing price when wishing to sell fewer quantities or consumers could place higher bids for buying one unit of the product or service. Hence, it is now clear that a market can only reach equilibrium if economic agents are free to set up the price of their trades.

Moreover, firms will only be selling at the lowest possible price if they are facing competition. There are, at least, three possibilities to consider for enframing an economic situation where a firm does not face due competition.

First, a firm does not face competition when it is alone supplying the market with a given product. In this situation, the monopolist will be pricing the product as higher as possible while producing as little as possible, thus maximizing his profit. This is not an efficient situation for the whole society because, with the same resources, it is possible to produce more while enjoying the satisfaction of some other needs. Notice that, by collecting more than reasonable profits, the monopolist prevents the remaining consumers from buying some other products they want, which, in turn, precludes other firms from selling their products as well. The bottom line is that even the monopolist is living worse off than it is possible, though never realizing it. Each time a monopolistic situation is allowed, the whole society has a loss, directly or indirectly.

Second, a firm does not have competition when it operates in collusion with other firms, performing a cartel for acting exactly as the monopolist does. Economic efficiency is compromised just as it happens with the monopolistic case.

A third, less intuitive, situation of economic inefficiency occurs when the government decides to set price limits for a given product. Usually intending to protect consumers, governments decide to impose maximum trading prices in a given product. This practice induces firms to produce less because firms are trying to accumulate profits as much as possible, and are free to decide upon the quantities they will produce considering the demand they are facing and the price they can sell the product. Simultaneously, setting price limits also precludes new firms from entering the market for it reduces their profit perspectives. Therefore, this practice sentences the whole society to be bounded to the existing quantities which current firms are deciding to sell while inhibiting any prospects of improvement in this market. This measure is killing the future possibilities of the economy for disposing of higher quantities of that product at lower prices. Hence, when firms do not have due competition economic efficiency is not attainable.

Fostering market equilibrium requires building the biggest market as possible. As we have seen before, it is mandatory to create the conditions for a wider number of consumers and producers to be able to encounter themselves. The number of consumers must be large enough to allow for the processes of the division of labor and specialization to occur. The number of firms must be large enough for inhibiting each firm from taking advantage of the whole society, scoring higher than reasonable profits, and securing economic inefficiencies that will hurt every living person. Hence, strictly speaking in economic efficiency terms, it is paramount to do two things: (1)

ensuring that consumers are equally given the possibility of consuming whatever they wish; and (2) ensuring that every firm is allowed to enter the market at pleasure.

Number one triggers economic inefficiencies in the demand-side if income inequality is a reality, similar to those brought out by the monopolies on the supply-side. Notice that by limiting the number of buyers on a given market, society is precluding new firms from entering that market because there is no room for an additional producer. Moreover, under a market short of buyers, the buyers will have the power to bring down the selling price of the product, getting the whole production for themselves, and forcing producers to choose between either accepting consumers' prices or leaving the market. If a new producer comes in, he will be unable to sell his production, unless it lowers, even more, the selling price. Therefore, each time a society evidences huge inequalities between rich and poor people, society is doomed to economic malfunctions.

Inequality encompasses severe socio-economic costs. Deakin (2016, p. 11) outlines that "*the Gini coefficient, which presents inequality in terms of the degree of dispersion of income within countries, is broadly correlated with levels of development*," reinforcing the economics' awareness about inequality's evil. Everyone will be living worse off than is possible because a small number of consumers are consuming the majority of the goods and services that are produced in that economy, leaving no room for new firms to enter the market. Consequently, the possibilities for deploying the practices of the division of labor and specialization diminish, and each individual must depend on himself for surviving; social cooperation is nullified, and the whole society is getting miserable and poor.

By the same token, it is worth mentioning that governments often do significant harm to the economy by conceding disproportionate wages to some professional classes while forcing some other fraction of the population to accept smaller wages instead. This type of manipulation brings huge economic inefficiencies, coupled with diminished welfare and life satisfaction as it is evidenced in Table 1. People always live worse off where those kinds of practices are more outrageous.

On the other hand, ensuring that firms are free to enter the market increases overall available quantities of any given product to as much as possible while pressing the price to the lowest possible value (i.e., overall firms' profits will be close to zero). By providing conditions for free competition to take place, building an economic environment just as close as possible of the one classified by Classical theory as perfectly competitive, governments will be acting towards the best interests of the whole society.

Consequently, the market must be free to every citizen in both, the aggregate demand-side and the aggregate supply-side, to be fair and healthy, in the sense that fosters both economic efficiency and overall welfare. The way for reaching a perfectly free environment, where social cooperation is magnified to its full potential, is thus the key to sustainable economic development.

When enjoying a perfectly free environment, society relishes a huge number of products for the satisfaction of the numerous wants and caprices of its members. Everything that is produced is consumed. Earnings, which are mostly wages, are sufficiently well distributed for allowing the entirety of the produced goods and services to be widespread over the whole population. People are satisfying their physical and emotional needs better than ever because prices are as low as possible and available quantities of the produced products and services are as high as possible.

In this amazing economic environment of perfect competition, which Sousa (1988) skeptically claims it does not exist, people have the freedom to dedicate themselves to the activities they are talented for. People need to learn about themselves, their inner talents, and their undiscovered powers, to be able to use their creativity where the whole society needs it most. People also need to learn all they can about the existing techniques and available resources for producing whatever the society is wanting. By being free for focusing on what individuals do better, people will reach higher performances, which, necessarily, translates into reaching higher levels of their customers' satisfaction as well.

Developed economies enable this kind of positive attitude better than developing ones. In the developed economies the markets are big enough for allowing the division of labor between health care professionals, teachers, farmers, manufacturers, bankers, governors, and several other useful occupations, all depending on each other for ensuring their basic living conditions – though often lacking the awareness of it. In this sense, Adam Smith announced the world the power of the 'invisible hand' for building the wealth of a nation, and, it is in this sense also, that I dare to suggest that freedom must be used for increasing the wealth of the world, measured by overall welfare. Freedom is thus the root of positive opportunistic behavior.

However, freedom is not a sufficient condition for ensuring Adam Smith's 'invisible hand' to act. Being aware of the complexity of the socioeconomic environment, in which the legitimacy of an economic agent to act is dependent upon the institutional environment where the action is taking place (Suchman, 1995; Kostova & Zaheer, 1999; Kostova et al., 2008;) – i.e., economic agents positive behavior is dependent upon the acceptance of those actions by some legitimating actors – lead us to identify that the freedom of each individual to act will be blocked by the rules and practices currently accepted by the society, setting up moorings and hurdles.

Traditions and legal practices set the boundaries for economic freedom to evolve while narrowing down the range of available opportunities and slowing down the pace of welfare improvement (Miller, 1997). Consequently, opportunism strives for his goal and will loom out, whether expressing itself under either a positive-strand or a negative one.

In this regard, and focusing the exposition of the regulatory framework to idiosyncratic opportunism, Gould & Gruben (1996, p. 346) state that "*in highly protected, uncompetitive markets, agents are unlikely to innovate much themselves, perhaps preferring to spend their resources on legislation schemes to preserve their market shares;*" an idea further consubstantiated by Hiatt & Greenfield (2004, p. 41) which point out that existing "*trading regimes protect property but not people*." Moreover, regardless of the existence of negative opportunistic behavior (such as the protection given by the society towards some firms, perpetuating monopolistic practices), tradition often precludes the pace of economic development from reaching higher performances by leading economic agents to misunderstand existing opportunities.

For instance, under a private property right well-enforced regime, risk-averse owners may yield adequate returns without investing, simply by limiting themselves to a rent-seeking proficiency while leaving the investment opportunity detection to others (Miller, 1997). Particularly, this may be happening because, as posed by Besley & Ghatak (2010, p. 4545), "*the current owner may not be the most efficiency potential user of an asset*."

Somewhat conversely, in communal tenure regimes, people may have incentives to invest in a given asset if they will be granted with an individual right upon that asset, which the investor could not have been granted otherwise (Miller, 1997). Hence, for Adam Smith's 'invisible hand' to be effective, it is mandatory to inhibit negative opportunistic behavior, while enabling freedom of action, and boosting positive opportunistic behavior by promoting social dialogue and overall knowledge exchanges.

The world's current organization is setting up a worldwide specific path which conditions overall economic agents' actions. The literature claims that reaching social gains demands providing investors with an adequate return on their riskier endeavors (Gould & Gruben, 1996; Maskus, 2000). Hence, fostering investments in knowledge creation and business innovation for placing new inventions and ideas in the markets must be the goal of a well-deployed institutional environment (Maskus, 2000). Property right emerges as a process that conveys a key feature to the owner upon which he "*is able to legally exclude others from using a good or asset*" (Besley & Ghatak, 2010). A proper property right regime is one enhancing the society's capacity to engage in productive activities; i.e. fostering positive opportunistic behavior for improving overall welfare. However, as the authors underline, *"other forms of property rights, such as communal property rights"* are important as well, *"such as a lake or a forest"* where *"individuals have use rights but do not have the right from excluding others from using it"* (Besley & Ghatak, 2010, p. 4526). Therefore, setting up an adequate regulatory regime is a complex task, whilst circumstantially constrained, because fostering private initiative to flourish depends on both formal and informal historical practices upon which the society is used to act upon (Miller, 1997). Santos (2009, p. 66) highlights that *"the normative order in operation stems from a variety of legal sources, not only the law as it exists on the books*." Furthermore, the regulatory framework needs to touch simultaneously both the way physical resources are used to engage in productive activities and also infer the mechanisms through which trading is performed in the economy. Thus, despite its inherent complexity, the role of the government setting up the most efficient institutional environment fostering overall welfare is paramount.

The literature acknowledges the role of the regulatory framework for setting up either power allocation channels (Santos, 2009) or wealth distribution channels (Besley & Ghatak, 2010). Thus, the regulatory framework directly impacts how productive units are deployed and, accordingly, what employment level is the economy able to reach. The partisans of either strong property rights enforcement or communal property rights enforcement are usually culturally shaped. Therefore, the supporters of each solution are often emotionally driven, detrimentally to a more cautious rational and informed approach. Consequently, public expressions of a given property rights regime, which allegedly is the best for pursuing overall welfare, are usually grounded on strong convictions that a given path already experienced somewhere in the world is the best possible way for reaching higher productive standards, regardless of historical practices, under a 'one fits all' solution. However, the regulatory framework is rarely bulletproof.

One example of such a situation is the current protection of intellectual property right by using patents. A patent is a form of property right designed for stimulating an inventor to disclose his creative discovery while enabling investors to widespread the benefits of that invention throughout the entire society. By granting the inventor, and the investor, the right to exploit the profits of exclusively producing an invention for, say, twenty years, the society's benefit coming out from that invention will be fully enjoyed when every firm, wishing to produce the invention, will do it after that protected period. This generally accepted practice fosters, cumulatively, both positive opportunistic behavior and negative opportunistic behavior, with an add-on reducing the pace of economic development.

The patent's inherent trade-off between positive opportunistic behavior and negative opportunistic behavior is rarely discussed publicly because it is widely accepted that it is a practice that it cannot be improved. However, this belief surely deserves further scrutiny.

Notice that the protection of the inventor's intellectual property, by granting him the exclusivity of exploiting the invention for a given time, stimulates inventors to use their creativity and register each patent they can, hoping to catch an investor's attention which will provide the inventor with his future financial independence. Nonetheless, being successful, the inventor will be limiting his gain to the price at which he will be able to sell his invention to the investor that presents the highest bid. The existence of a market for patents is thus narrowed down to the short period between the announcement of the patent and the purchase made by the investor. Afterward, the invention will be fully exploited by the investor for tens of years, under an enacted monopoly, at the expense of the whole society in the sense that it compromises overall economic efficiency.

Other forms of negative opportunistic behavior take advantage of the current property rights regime. Gould & Gruben (1996, p. 325) outline that "*it has been shown that under some conditions, a monopoly may accumulate patents to preserve its power by allowing the patents to 'sleep' so as to deter entry into an industry*." Nonetheless, up till now, the world has not been able to implement a better way of fostering positive opportunistic behavior. It is sometimes said that property rights protection gathers the best of two worlds: it stimulates inventors to disclose their discoveries while boosting investors to chase new inventions, thus approaching those who know how to do things from those who have the capital to actually put the benefits of the invention at the service of the whole society.

Several additional remarks must be in place. First, the success of the inventor monetizing her invention finishes at the moment she sells her invention to an investor. However, this important stint does not apply to the investor. The investor has room to choose to disclose the product to the general public when he feels like it is appropriate (or it is more profitable), focusing on his interest alone. Indeed, this reasoning does not apply when the inventor exploits her invention by marketing the product. However, history shows that this is a rare instance. Second, the world practices continuously show that society is deprived of thoroughly benefiting from each person's invention. The proof lies in the numerous situations where some individuals and firms, worldwide, take advantage of someone's invention by copying it and marketing the product with the acceptance of the market. These sellers usually marketing their copies at lower prices than the originals are being sold. Despite the existence of consumers wanting those products, counterfeit products are chased and punished by law, supposedly because society has a number of needs to take care of, namely: stimulating the use of creativity by investors; securing the capital gains of the investors; and gathering the overall benefits of consumers satisfying their physical and emotional needs with the new products. Third, it seems existing an unsolved conflict between the need for continuously deploying new products for the satisfaction of unmet wants, and the loss of economic efficiency due to granting someone the right to fully taking advantage of the whole society upon that discovery. Overall, looking at the individual interests at stake in this analysis, inventors and consumers take a small part of the benefits of the existence of property rights by the use of patents while investors can grab the greater slice of the pie; yet being economically inefficient.

Likely, under the technical conditions where the world's economy has been living in, perhaps it was not possible to do better for stimulating Adam Smith's 'invisible hand.' Nonetheless, it surely is possible to provide a legal framework that better defends consumers' interests while fostering positive opportunistic behavior from both inventors and investors. I herein suggest a three-step possible solution: (1) inventors will register their inventions on a safe depository world institute disclosing their invention to the world; (2) firms wishing to use that invention register themselves as users of that specific patent, submitting themselves to paying the inventor a fee over the sales of that product, or upon the revenues obtained with the commercialization of a unit of that product (for instance, if the invention is a sub-product or component to be incorporated in some final product); and (3) payment settlements between inventors and investors will be controlled by the world patent safe depository.

This procedure has several advantages over existing patent methodology. It allows more than one investor to take advantage of any invention, thus enabling the whole society to take full benefit of the product by enjoying higher quantities of it at lower prices. Investors' risk will be reduced since the absolute value to be paid to the inventor is dependent upon the successful marketing of the invention. Moreover, it does not limit the inventor in his ability for monetizing his invention, neither by conditioning this success to individual negotiation with one single investor nor by setting up a specific period during which the investor will benefit from the invention. Additionally, the inventor does not face an upper boundary for the gain that he may get from the invention. Finally, it truly stimulates inventors to come up with every improving suggestion upon existing techniques since they will be resting on investors' ambition looking for new inventions instead of depending on their efforts for selling their invention to a single investor who may be interested in marketing it. However, these advantages are not easily overcome by the huge disadvantage presented by the technical conditions required for the implementation of this suggestion of mine.

Indeed, for the deployment of this system to be successful it is required a tight linkage of every accounting system worldwide with the world patent safe depository, enabling the calculation of the payment between investor and inventor to be accurately settled. Otherwise negative opportunistic behavior will take place on the investor side, using the invention without fulfilling any payment at all to the inventor. Actually, at the moment, this is not possible worldwide. Yet it is at least possible to implement it at the country level, fostering developed economies to develop further. It is a way of setting up the world economy, which fosters positive opportunistic behavior. Just as long as accounting systems be working properly worldwide, it surely reduces claims, conflicts, and punishments upon counterfeit products, while enlarging the degrees of freedom for economic agents to act.

The bottom line of this reflection is that the world is far from being as economically efficient as it can be. The current institutional environment can be severely improved by creating the proper conditions for economic development. And ensuring economic agents' freedom to act is a crucial step towards progress.

Having the biggest possible market and keeping it properly balanced is thus a function which has three specific determinants: (1) the economic agents freedom to act, both as a buyer or a seller, and both as a producer or a consumer; (2) the institutional context legitimating economic agents actions; and (3) the technical conditions available for production, conveyance, consumption, and vigilance upon the awakening of negative opportunistic behavior. It is up to society to work hard these determinants for ensuring the existence of balanced markets worldwide.

This notion of general market equilibrium, which easily applies to the market of goods and services, may be extended into both the labor market and the financial market as well. When we realize how we need to enable a free decision-making process on both the demand and supply side to get the markets balanced, it is astonishing how unbalanced the markets have always been.

Let us start analyzing the labor market.

During the economics beginnings, it was widely accepted that supply was creating its own demand. Therefore, the existence of involuntary unemployment was considered acceptable. This belief was first questioned by Ricardo (1817, p. lix) when the author stated that "*machinery could be profitable to introduce and yet result in a smaller* *total product, and demand for labour,"* underlining that the existence of a disequilibrium in the labor market could easily translate into unbalances in the market of goods and services. Keynes (1936) further reinforces this notion by outstanding the impossibility of having a multitude of market equilibriums, all depending exclusively on the supply side while having involuntary unemployment. Indeed, the only way of ensuring that the quantity of labor supply, at a given wage, is an equilibrium one, is by having none involuntary unemployment. If it was not so, any firm would gladly decrease the wages paid to their employees up to the point where no unemployed person was wishing to work at the available wage. Thus, in the labor market, supply does not create its demand. The supply of labor simply exists. People need to earn a living. Everybody is dependent on the production of something useful to others, aiming at exchanging their surpluses with the surpluses of others. Overall welfare improves based on the possibility of each economic agent exchanging what is not useful to them, individually, with the goods and services that are useful to others. That is why a developed economy depends upon wide social cooperation, as stated by Marx (1867). Nowadays, because involuntary unemployment is accepted and is the norm, it is clear that the labor market is unbalanced; but the world keeps being unable to solve the problem.

The sources of the labor market disequilibrium are multiple. The unbalances focus on both the quantity and the wage of labor. Since, in any market, the decision-making process on both sides – supply and demand – is dependent upon the duality between quantity and price (the wage in this instance), it is possible analyzing what happens in the economic agents' hearts when either the available work changes or the wage varies. The origins of these changes are coming from both the supply and demand for labor. Naturally, the sources of the labor market unbalances have a lot to do with opportunistic behavior and the available institutional framework.

Let us start considering a change in the quantity of labor on the demand side and analyzing how economic agents' behavior adjusts facing this kind of change. One example of such a situation is the unemployment triggered by inventing the machine that replaces the job of several persons while increasing productivity. The demand for labor falls immediately. The entrepreneur is now gladly taking advantage of his competition since he can cut down his production costs while competitors cannot. Therefore, the machine is replacing men, the demand for labor decreases whilst the supply of labor increases. If the labor market was functioning in equilibrium, the normal adjustment would be a decrease in wages caused by those unemployed persons that wish to work. Under this premise, producers often stand by labor flexibility laws upon which *"flexibility meant a regime of employment at will, where the* *government imposed no restrictions on hiring, firing or working conditions"* (Santos, 2009, p. 45). Since all jobs are taken, the only way for these unemployed persons to get a job is by decreasing the wage they are asking to work for. Now, under this regulatory framework of labor flexibility (from entrepreneurs standpoint), every firm in the market is prone to take advantage of the situation either by replacing a few existent employees for a less expensive new one, or by asking their existing employees to accept lower wages since the firm is able to replace them at once while reducing labor costs. If we start from a situation of full employment, this process will go on until every person is again employed. Every time a machine is used to replace men, normal opportunistic behavior will lead to a decrease in wages to keep the situation of full employment in the economy. Therefore, a decrease in the quantity demanded of labor will lead to a decrease in wages in a well-balanced labor market.

Again, starting from a situation of full employment, the second example of a change in the quantity of labor on the demand side is when a new firm is starting up. When an entrepreneur discovers a way of producing something new and she needs to deploy a new production unit, she likely needs to ask some employees to work with her as well. Since they are all employed, they are likely asking for higher wages to exchange their actual jobs for the new one she is offering. By acting this way, the new firm will press the wages in the economy to go higher because existing firms, to secure their best employees, will offer wage improvements to them. Hence, an increase in the quantity demanded of labor will lead to an increase in wages in a well-balanced labor market.

Now, considering a change on the supply side, and starting from a situation of full employment as considered before, assume that the quantity of labor supply decreases. An example of this situation happens when a fraction of the population of a country chooses to go abroad. In this instance, existing firms in the economy will be short of hands to perform the tasks they need. Therefore, firms will try to capture employees from their competitors to be able to keep producing the same quantities as before or to be able to keep the same product quality as before. Existing firms will be forced to increase the wages they are paying to their employees for both, secure existing employees and hire new ones. Hence, a decrease in the quantity of labor offered in the economy leads to an increase in wages in a well-balanced economy.

Conversely, when some foreign migrants are coming in, into a country or region, or city, existing firms can use those available hands to do the work. Firms' normal opportunistic behavior leads them to ask for lower wages to reduce their production costs, making them more competitive. Therefore, firms will gladly replace existing employees for new ones just as long as they can reduce overall labor wages while keeping the same quantity and quality regarding their production. Hence, generally, an increase in the quantity of labor offered in the economy leads to a decrease in wages in a well-balanced economy.

It is worth standing out a few remarks clarifying the involved complexity of these situations.

Firstly, the examples just presented can be applied to a huge number of situations that happen regularly in any economy. For instance, while the example presented regarding changes in the labor supply focuses the movement of persons from one location to another, a similar situation occurs when a higher number of highly prepared persons finish university and come out to the labor market. For instance, if we consider the university will be preparing a higher than usual number of new physicians (in a number higher than those who are retiring), the final result in a well-balanced labor market will be a reduction in the wages of the overall employees, which will translate into a reduction in the price of health care services endured by the entire population – thus increasing overall welfare. A lot of other examples can be drawn out. It is important to realize that a well-balanced labor market requires freedom for people to behave opportunistically, which means firms must be free to decide on the wage to pay, and employees must be free to decide upon the professional occupation of their choice. As we have just seen in the physicians' example, that is the way for improving overall welfare.

Secondly, it is always to be considered that the effects on the labor market of each one of the above mentioning examples translate into the market of goods and services. Again, picking up the last example, please note that by entering the economy many new active professionals who are going to be active consumers of existing goods will increase the number of available consumers for the entire aggregate supply – thus pressing prices higher. However, by entering the economy, these new professionals press wages to go down and, consequently, fostering a reduction in consumers' purchasing power – thus pressing prices lower by this effect. Adjustments in the labor market determine adjustments in the market of goods and services, albeit it is not always clear what the final result will be.

Thirdly, it is crucial to identify what happens in the economy when normal adjustments are not allowed to take place. In this situation, if firms cannot decrease the wage they are paying to those professionals, then firms cannot decrease the price at which they are selling their services. In this instance, consumers are precluded from receiving health care services at lower prices, while these new professionals, highly prepared by the universities, are doomed to rest unemployed. The cost of preparing those professionals is supported by the entire community either directly or indirectly.

The former happens when academic education is mostly supported by the tax system. The latter occurs when each family channel a fraction of their budget towards the education of their children while ruling out the consumption of several other products produced by the aggregate supply. Despite the entire society is supporting the cost of preparing those persons to be useful to the community, the institutional environment is often preventing the society from enjoying the fruits of its investment. When the labor market is not allowed to be well-balanced, economic inefficiencies come out, and unemployment is unavoidable under our current economic template.

Proceeding this line of reasoning regarding the allowance of the existence of institutional pressures for creating unbalances in the labor market, let us analyze what happens when a given professional class decides to claim higher wages just because – the motivation is not important for only the consequences of those actions matter. Imagine that the entire justice department of a region decides to go into a strike claiming for higher wages. We have to consider two possibilities: one, in which those professionals cannot choose to change their employer; and another, in which those professionals may opt for a professional alternative.

In the former situation, because those employees have no professional alternative, the strike is nothing but a tug of war game between the local government and the justice department doing the strike, where the remaining society is used as an excused by both parties for supporting their arguments. If the government chooses to concede the claimed wage increase, then taxes must be increased as well to pay these higher wages – which is likely – or someone else is going to suffer a reduction of the same magnitude within the governments' expenses – which is less likely. If the government is aware that the claimants truly have no professional alternative, then the government may simply ignore the claims because no substantial consequences are expected to come out from the strike. Moreover, if the government chooses not to concede the asked wage increase then those justice department employees will likely underperform their tasks, and the whole community will suffer the consequences. No matter what will be the final result, society is ending up losing.

In the latter situation, creating conditions for the claimants to move to another professional occupation, gives both parties – the government and the claimants – the opportunity to decide according to what is best for society. By defending their interests, claimants may decide to go out on a strike for pressing the government to pay them higher wages. However, the government is now aware that claimants may move out to an alternative professional occupation. This situation forces the government to actually consider the possibility of increasing the wages of these employees because the government is aware that any employee resignation will need to be replaced by hiring someone else. Necessarily, this option implies the payment of a higher wage to enable the government to capture any new employee from his current occupation. Therefore, if the government accepts to increase the wage, it would be because it will be more expensive not to do it. If the government feels that the claimants are bluffing, the government purely stands still, and the claimants will perform their tasks as usually because they really do not have in mind changing their professional occupation. The society always loses something when markets are unbalanced, although, in this second situation, the society seems to lose less since governments' decisions will be taken looking at overall general interests, and not just to their owns.

Within the academic realm, it is theoretically shown that when *n-1* markets are in equilibrium then the *nth* market will be balanced too. This translates into a strong certainty about the existence of a balanced financial market when both the labor market and the market of goods and services are in equilibrium. Following this reasoning, one may be driven to think that we do not need to worry about the existence of equilibrium in the financial market once the remaining markets are properly balanced. This is theoretically true because it is a *ceteris paribus* assumption; i.e., it is true just as long as no external shock happens to foster any disequilibrium in the markets. Though this theoretical certainty sounds good, the practice evidenced by the real world is that opportunism is the tool with which humans improve their living conditions, mostly driven by individual motivations. Consequently, wherever an opportunity is detected, a man will take advantage of others for his private benefit, and the equilibrium in the markets may be jeopardized. Hence, by triggering an unbalance in one single market, the remaining markets will be at stake too, and the all world will be worse off while bearing economic inefficiencies. The same certainty which tells us that *n-1* balanced markets are enough for being certain of overall economic equilibrium also evidences that it is sufficient to have one market unbalanced for having the whole markets out of balance.

The simultaneous equilibrium among the financial market, the labor market, and the market of goods and services set up the basis for sustained economic development. Notice that everything that is produced must be consumed.[50] Money is used for promoting the efficient exchange of everything that is produced. Therefore, in a balanced economy, the equality between production, consumption, and the money available in the economy allows the whole production to be consumed (see Figure 2 in Part III). Prices simply represent the exchange rates at which the disparate produced products and services are exchanged between producers.[51] The total available money in the economy is thus used for running out the entire production, enabling its consumption. Money assumes the form of wages, profits, and taxes, and is simply the purchasing power of any economic agent, with which their individual needs may be satisfied. Hence, it is crucial to understand how those who have more money than they need can lend it to those who are short of money in a particular moment in time, balancing money supply with its demand.

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[50] The entire society produces goods and services which are destined for satisfying householders' consumption needs and firms' investment needs; otherwise, the production is going to waste.

Balancing money supply and money demand requests a perfect match between economic agents' disparate needs. The needs of those who are short of money may have a quite different nature than those who have a money surplus. The demand for money is divided by Keynes (1936, p.146) into three independent branches: "*(i) the transactions-motive, i.e. the need of cash for current transaction of personal and business exchanges; (ii) the precautionary motive, i.e. the desire for security as to the future cash equivalent of a certain proportion of total resources; and (iii) the speculative motive, i.e. the object of securing profit from knowing better than the market what the future will bring forth*." Notice that these three branches all have inner emotional grounds: the transactions-motive is destined to ensure every economic agent's current survival, and has a practical nature; the precautionary motive aims at ensuring economic agents' future survival and is triggered by fears on uncertainties about the future; and the speculative motive is stemmed by greed, mostly feed by the idea that a given person is clever than someone else, since the eventual gain of an economic agent is the sure loss of another. However, the demand for money may also be divided into the need to increase consumption in the present – moment zero – while foreseeing its reduction in the future – moment one.

Analogously, the supply of money may also exist based on the natural dichotomy settled down between moment zero (the present) and moment one (the future). For instance, in moment zero, a firm may be setting up a productive unit with their available money, while realizing that, in moment one, it will need some working capital in order to fully finance the purchase of raw material and the hiring of new laborers; or a householder may choose to buy a house at moment zero, which will steeply increase his current needs of money. However, no matter the considered time horizon, while the demand for money[52] is mainly driven by fear and surviving needs (except in the case of the speculative motive), the supply of money is mostly driven by greed and is usually little explained by the literature.

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[51] Notice that the entire society is producing something; i.e. just as long as everybody is employed then entrepreneurs, laborers, bankers, and governors, they all will be contributing to overall welfare – contrariwise, they will be engaging in a form of negative opportunistic behavior.

[52] The literature also treats money demand as 'liquidity preference.'

The supply of money is thought to be controlled by the banking system under government supervision. Usually, banks are allowed to create money up to a given limit. The money creation happens when an economic agent's bank account is added with some monetary amount which does not belong to the economic agent. The amount added to the economic agent's bank account is a loan provided by the bank which must be returned to the bank in the future, plus interest. However, in moment zero, despite the banking system is controlling the overall existing money in the economy, a part of the money supply that exists in the economy is coming from the savings of firms and householders aiming at earning interest as well. In this realm, a portion of the current existing money supply is coming from a fraction of the population trying to transfer the ability to consume today to sometime later on in the future. Hence, the money supply aims at grabbing part of the existing products through the mechanism of collecting interest.

As Schumpeter (1934) extolls, the financial system has a crucial role in enabling economic development by providing economic agents with the purchasing power they need for engaging in new investment activities. These investment activities foster new ways of producing goods and services that will satisfy consumers' needs. Economic development is thus boosted to its full potential by enabling the society to enjoy the outcome of its members' creativity. Hence, positive opportunistic behavior is highly dependent upon the encounter between those who seek purchasing power to invest (the firms) and those who simply are seeking to collect interest by providing that specific purchasing power (the bank).

In an efficient financial market the total money that economic agents are offering in moment zero to be returned in moment one, must be equal to the total amount of money economic agents are demanding in moment zero to be paid back in moment one, accrued with the interest to be paid at, the so-called, equilibrium interest rate. The equilibrium interest rate is, therefore, the interest rate that, cumulatively, allows, in moment zero, firms' investments to occur, and consumer loans to be conceded, while enabling banks and moment zero savers to consume more in moment one, somewhere in the future. If this interest rate is too high, then firms will cease investing; since investment's returns may not be enough to pay back the loan plus interest. Moreover, if the interest rate is too high, then moment zero savers will offer more money, while moment zero borrowers will forgo those loans for they will be foreseeing future difficulties for fulfilling their responsibilities. Hence, too high-interest rates will lead to an excess of the money supply over money demand. Analogously, too low-interest rates will lead to an excess of the money demand over the money supply. If the financial system is to work properly and freely, as a market is expected to, then the market is being efficient and no economic agent is wishing to pursue any further trade at the existing interest rate. Nonetheless, it is widely known that governments control both the quantity of money circulating in the economy and the interest rate at which exchanges of purchasing power between moment zero and moment one are taking place.

Having governments controlling the available quantity of money in the economy is a very sensitive issue because expectations play a very important role in every economic agent's behavior. The first motive for demanding money is a practical one: using money as a facilitator of the economic transactions of goods and services between producers. Therefore, every economic agent is aiming at selling all her production and use the money received in exchange to buy all the goods and services that will satisfy her needs. In the absence of money, economic exchanges would take place by exchanging, for instance, one rabbit for three eggs, or any other exchange rate that the market would set according to each economic agent's standards and preferences. In its inner essence, the mechanism of pricing is nothing more than the settlement of a given exchange rate between everything that is produced in the economy. Thus, once an economic agent engages in a given economic transaction he is going to mentally set a reference for future transactions of the same nature.

An economic agent's expectation is defined every time an economic transaction is completed. If one rabbit is usually exchanged by three eggs then this three to one relationship, between eggs and rabbits, is expected to hold whatever the money available in the economy. Consequently, if a householder receives a wage of 100 currency units, and is buying one egg by 1 currency unit, then he will likely be buying the rabbit by 3 currency units. Moreover, if he doubles his wage, he will be gladly buying one egg by 2 currency units while buying the rabbit by 6 currency units. The welfare of the householder of this example does not change simply because the money available in the economy had doubled. Prices act as a mental reference with which human beings make rational decisions for best satisfying their physical and emotional needs.

If the money available in the economy changes, then an unbalance is created in the economy, which severely impacts the way regular economic transactions evolve. Accordingly, allowing someone to control the supply of money in an economy presents a significant threat to overall economic balance.

Economic agents' regular expectations are jeopardized by overflowing additional money into the economy. Departing from an economic equilibrium as depicted in Figure 2, when the government allows the monetary authorities to create more money then, undoubtedly, that money is going to provide a given economic agent with an additional purchasing power, which did not exist before in the economy. Thus, this economic agent pushes higher the prices of her target products and reshapes the exchange rate references at which the economic transactions of those products take place. Because most of the products are used as a production factor for producing other goods, then the prices of those other goods tend to go higher as well; for entrepreneurs aim at keeping the same profit margin as usual. By the same token, householders are wishing to maintain their purchasing power as well, and, following this inflationary effect of the prices in the economy, they will be claiming for higher wages. Regular people do not sense the increase in the amount of money circulating in the economy, but they will immediately adjust their behavior to price changes of the products that will satisfy their physical and emotional needs. This effect adds a component of uncertainty in each economic agent's mind, leading people to adjust by expecting further inflationary pressures on future prices.

The literature is quite parsimonious dealing with this above mentioned monetary approach where income is bounded to production. Bortis (2004), grounding on Sergio Rossi's work, poses that income is the immediate result of production while being related to a very well defined time. Moreover, the author argues that the link between money and production is settled when money is used for bearing the production cost. Bortis (2004, p. 158), in his article reviewing Sergio Rossi's book, considers it "*fascinating and refreshing, and highly worthwhile*," which reinforces the novelty that this monetary approach has in the economics domain. Even when we use machines to replace human labor, we are still using our human creativity for making it easier to perform our work. Production will always remain as the outcome of a human's labor. It can be no doubt that it is through labor that welfare is produced. Otherwise, there remain no goods or services in the economy to fulfill our human physical and emotional needs. Accordingly, there can be no doubt that these goods and services are exchanged among the society with the help of money, which is its first usefulness. The monetary linkage between money and production is set by the total quantity of goods produced in the economy, and represent indeed the whole riches of the society once they are consumed.

Money is powerful for fostering an economic disequilibrium. Money is the vehicle used for providing economic agents with the purchasing power which enables them to fulfill their physical and emotional needs.

Firstly, by simply adding money into the economic system, the government (or the monetary authorities on its behalf) causes an unbalance between the total amount of money available and the expected values at which the transactions of the whole production are taking place in the economy. The literature calls this surplus of money over the value of production at current prices as "empty" money "*since money is the vehicle carrying output*" (Bortis, 2004, p. 160) and there is none in this just created monetary surplus. The "empty" money is considered an inflation builder because this just created purchasing power will enable some economic agents to bid higher their target products. This action, in turn, will enable an increase in their producers' profits. By the same token, these profits will be used to acquire other goods and services in the economy, thus pressing the whole pricing system higher.

Secondly, by reducing the money circulating in the economy (i.e. by reducing the money available for performing regular economic transactions), the government (or the monetary authorities in its behalf) forces an overall welfare loss since, regarding the prices at which economic transactions take place, it is not possible to simultaneously adjust the economic agents' expectations. Therefore, when the economy is facing a deficit of money supply, it is not possible to exchange the existing output at the same prices as before. Some part of the total production goes to waste. Firms stop selling part of their production, banks start dealing with customers' defaults, and the trigger of a slump simply kicks in. Money is a very sensitive tool for fine-tuning the whole economy.

Economists have widely studied the pervasive effects of inflation on the economy. On a recent work Alvarez, Beraja, Gonzalez-Rozada & Neumeyer (2019) studied the evolution of Argentina's consumer price index from 1988 to 1997. This study has accrued relevance for "*Argentina's experience provides a unique opportunity to analyze price-setting behavior (…) because it encompasses several years of price stability (and even deflation) as well as years of sustained very high inflation*" (Alvarez et al., 2019, p. 452). Most of the relevance of these authors' study comes out from the fact that inflation rates vary from the huge values of almost 5,000 percent during 1989, and 1,500 percent during 1990, to a quick disinflation episode in 1991, and a fair price stability with some deflationary periods after 1992 and until 1997, which provide an effective sensing upon the impact of inflation in overall welfare. The authors find out that high inflation is itself a driver of price changes because "*the frequency of price changes across different products becomes similar*" while, at low inflation rates (below 5.0 percent), "*the frequency of price changes, the dispersion of relative prices, and the absolute size of price changes are insensitive to inflation*" (Alvarez et al., 2019, p. 502). Moreover, the authors "*conclude by showing that a hyperinflation of 500% a year is associated with a cost of approximately 8.5% of aggregate output a year as a result of inefficient price dispersion alone*" (Alvarez et al., 2019, p. 451). Hence, the economy registers a very significant sustained loss simply by registering abnormal inflation rates.

The importance of this conclusion is closely related to the link between money and production. Note that huge inflation rates lead to enormous aggregate output losses. This happens because economic agents' expectations are set to continuously require higher prices to exchange their products with others. But, since production does not increase at the same pace as inflation does, then its effect is the same as a reduction of the money available in the economy when starting from a balanced economic position: it withdraws economic agents the possibility of exchanging their entire production. Alvarez et al. (2019)'s study confirms Rossi's quantum theory of money.

We come into a steady point where we are fully aware of how arbitrary money manipulations may jeopardize the welfare of the whole society. Milton Friedman supports that our "*understanding of the relation between money, prices, and output is so meager, that there is so much leeway in these relations, that such discretionary changes* [deliberate changes in the rate of monetary growth] *do more harm than good*" (Ebenstein, 2012, p. 195).

Nonetheless, Schumpeter (1934) shows that economic development requires a banking system lending money to entrepreneurs, providing the purchasing power entrepreneurs need to engage in new endeavors, which will foster new products and new ways of organizing the production process. However, Milton Friedman also outlines that "*some monetarists conclude that deliberate changes in the rate of monetary growth by the authorities can be useful to offset other forces making for instability, provided they are gradual and take into account the lags involved*" (Ebenstein, 2012, p. 187). Thus, the economy faces a permanent challenge for building up an economic environment which fosters a sustained economic development; for it requires an institutional environment which, cumulatively, provides entrepreneurs with the ability to deploy new productive units while being able to keep the inflation rate under control.

Lately, overcoming the above mentioned economic challenge has been attempted by governments (or by monetary authorities on their behalf) by adopting an inflation-targeting framework. Tawadros (2009) engages in a study encompassing 27 countries worldwide which have adopted an inflation-targeting regime between 1980 and 2006 to examine the impact of such a measure in the evolution of inflation in those countries. The author poses that "*the empirical evidence suggests that almost all of the central banks that have pursued this strategy have been unsuccessful at controlling inflation, with the results indicating that the adoption of an inflation-targeting regime has had the perverse effect on inflation for almost every country*" (Tawadros, 2009, p. 326).[53] Therefore, this result further suggests that seeking to engage in arbitrary manipulation of the financial market does not ensure the economic stability required for building sustained economic development.

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[53] Specifically, the study uses quarterly data on the consumer price index for the following countries: Australia, Brazil, Canada, Chile, Colombia, the Czech Republic, Finland, Hungary, Iceland, Indonesia, Israel, South Korea, Mexico, New Zealand, Norway, Peru, the Philippines, Poland, Romania, the Slovak Republic, South Africa, Spain, Sweden, Switzerland, Thailand, Turkey, and the UK.

The regular functioning of the financial system depends upon the payment of interest over the quantity of "empty" money injected in the economy – for instance by the opening of a credit line for boosting investment in a given economic sector. Retrieving the notion that interest is due in respect to a specific time horizon, it is adequate to check out what happens in moment zero while comparing it to what moment one will bring.

The creation of "empty" money at moment zero generates a new purchasing power enabling the firms targeted by the credit line to engage in new investments. This directed demand contributes to the immediate increment of the prices of machinery and facilities needed for deploying the new productive units. Within a given time, that effect translates into a general price adjustment in the whole economy. Now, regardless of what happens to production meanwhile, interest must be paid to the financial industry in moment one. Thus, if production increases and the new investment manages to produce additional goods and services that are accepted by consumers (aggregate demand) then prices might be kept under control since the competition among firms for selling all their products will drive prices lower. Conversely, if the new investment ends up in failure, then the whole money existing now in the economy is still channeled for the same products existing before the creation of "empty" money; and inflation is a sure reality. Nonetheless, the mandatory payment of interest in moment one will always impact negatively the regular functioning of the economy.

Remembering Figure 2, we know that, in a balanced economy, it is acceptable that production, available money, and consumption, all have the same magnitude regarding value in use. If at moment zero, the investment turns out to be fruitful, then the economy registers a gross domestic product growth, yet the financial impact remains to be finished. At moment zero, the economic agent receiving the money created by the bank will use this new money for consumption – either for fulfilling regular consumption needs or for the deployment of some form of investment. But in moment one, in the future, the bank's customer must deliver the money he has received in moment zero plus interest, which means that the economy will be short of the money previously used for performing an economic transaction plus an additional amount, the interest, which the economy was using for other economic transactions. When interest is paid to the bank, some products which were produced before, at moment zero, can no longer be exchanged. There is less money in the economy to perform all the economic transactions at the same prices. Note that economic agents' expectations are the same (i.e., required prices for engaging in economic transactions are still the same). However, part of the total available money saved by borrowers during the transaction period, between moment zero and moment one, cannot be used for consumption since it must be delivered to their creditors. Figure 15 depicts this effect. In the end, the payment of interest i leads to a similar loss of x in the aggregate consumption.

Figure 15 – *Disequilibrium by interest payment on "empty" money*

Production		
Money		i
Consumption		x

One remarkable feature that often escapes the general public is that this loss does not happen when the credit lines are coming one hundred percent from saved money. Looking at the householder behavior at moment zero, it is possible to observe that some people are saving money for future consumption, due to present satiety or due to individual preference – for instance, a householder may be saving in the present for hoarding a sufficient amount of money which will allow for his little children future university education, while others are demanding a loan for purchasing a house. Let us label individual one as *L*, the lender, and individual two as *B*, the borrower. In the whole economy, the total amount saved by *L* people is withdrawn from the whole amount of money available in the economy for engaging in economic transactions. Therefore, in moment zero, considering that the whole production is being consumed, then this amount of saved money is not impacting overall equilibrium, and it is called "idle" money (Bortis, 2004). If this money is going to be used somewhere in the future by these householders, then the effect of this "idle" money in the economy will be similar to that of a regular creation of "empty" money, which is pressing prices higher. However, if, at moment zero, the aggregate savings amount of *L* can fulfill *B* purchasing power needs, then the whole economy remains balanced during the transition time frame. If consumer's credit is conceded upon consumer's saving only, one hundred percent, then the interest rate settled between the two individuals will be such that the expectations of both individuals regarding their consumption preferences over time will be suited.

It is crucial to distinguish the separate effect in the economy between "empty" money, and "idle" money.

When "idle" money looms out, for instance, because householders refrain from consuming as expected by Keynes (1936) when the economy reaches a stage of full employment, then, whatever the interest rate settled among lenders and borrowers, prices and production do not suffer much if lenders are able to deliver to borrowers this amount of money in moment zero. In this instance, the amount of truly "idle" money is minimized, and likely meaningless, because it is expectable that the private interest rate formed in the market will always balance both lenders and borrowers' expectations. In this sense, "idle" money is simply a consumption exchange among householders between moment zero and moment one.

However, when "empty" money comes in, out of nowhere, there is no ad hoc interest rate that can be set to properly balance the economy because there is no need to sacrifice any production in moment zero, although it is sparked the sure need of sacrificing production in moment one. Thus, when all goes well, as it has happened in the developed world in the second decade of the XXI century, the creation of "empty" money, by the opening of a panoply of credit lines that the governments (or the monetary authorities in their behalf) choose to implement, requires a continuation of a renewed wave of "empty" money creation in order to prevent the economy from falling back.

Figure 16 depicts the effect of creating additional money in moment one, which becomes mandatory for keeping the economy on a positive trend. Note that *c* is always equal to *b* to keep the economy's balance. It is also required that *b* (new "empty" money just created) is equal to or greater than *i* (interest paid), otherwise, in moment one, total production could not translate into consumption, and some parts of production would go to waste.

Our current financial system requires a permanent-growth of overall available money, which necessarily triggers inflation every time *b* is greater than *i* in a specific moment in time. The banking industry contributes for increasing the pressure on prices to go up by enlarging the money available in the economy and channeling this new money for raising economic agents' purchasing power (because new buyers will compete with the existing ones for getting the same quantities of goods and services available in the economy as before, leading these new buyers to bid at higher prices).

Figure 16 – *"Empty" money begets "empty" money*

Production			
Money		*i*	*b*
Consumption		*x*	*c*

Specifically, banks are allowed to lend a given percentage of the total amount of their customers' deposits in their bank accounts. It is not unusual to consider that banks are allowed to lend ninety percent of their existing deposits. The process of continuously lending ninety percent of each amount deposited in a bank account leads to a geometric progression which translates into multiplying by ten the initial money of the economy. If private banks were allowed to fully use this money creation permission, then production would need to grow at the same pace for keeping prices under control. Again, as outlined by Marx (1867), mankind is controlled by the current economic system, always struggling to keep it balanced. Because the creation of money leads to inflation pressures, the government aims at controlling the money supply for preventing the banks from creating excessive money – which, instead of stimulating the economy, can spur disastrous inflation spikes which compromise economic agents' trust in the currency.

Notice that a sudden economic shock leading to an output reduction will foster the same inflationary framework as depicted above. Venezuela crisis, since 2013 and still going on, constitutes a remarkable example of such a situation where, due to the huge reduction of production in the country during the last years, prices climb to an unimaginable 1,000,000 inflation rate (according to the IMF late projections made in 2018) while the country's gross domestic product decreases over 18 percent. The money available in the hands of Venezuela's economic agents remains, while the products available to be bought decreased a lot. Moreover, Venezuela's economic agents do not foresee any improvement soon, leading people to save even more money for precautionary reasons. Fear always sets its rules. Hence, a regular price adjustment is made by people bidding higher for getting the products that will satisfy their physical and emotional needs.

Empirically, it is possible to observe a steady evolution of the aggregate money supply M2 [54] above inflation. For instance, relying on the data released by FRED (Federal Reserve of St. Louis) regarding the United States economy, we conclude that, between 1961 and 2018, the mean growth rate of consumer price index (CPI) was of 3.793 percent while the mean growth rate of M2 in the same period of time was of 6.862 percent. Thus M2 growth has been steadily kept above inflation. Figure 17 depicts this historic evolution. Hence, empirical data supports the notion that "empty" money begets "empty"

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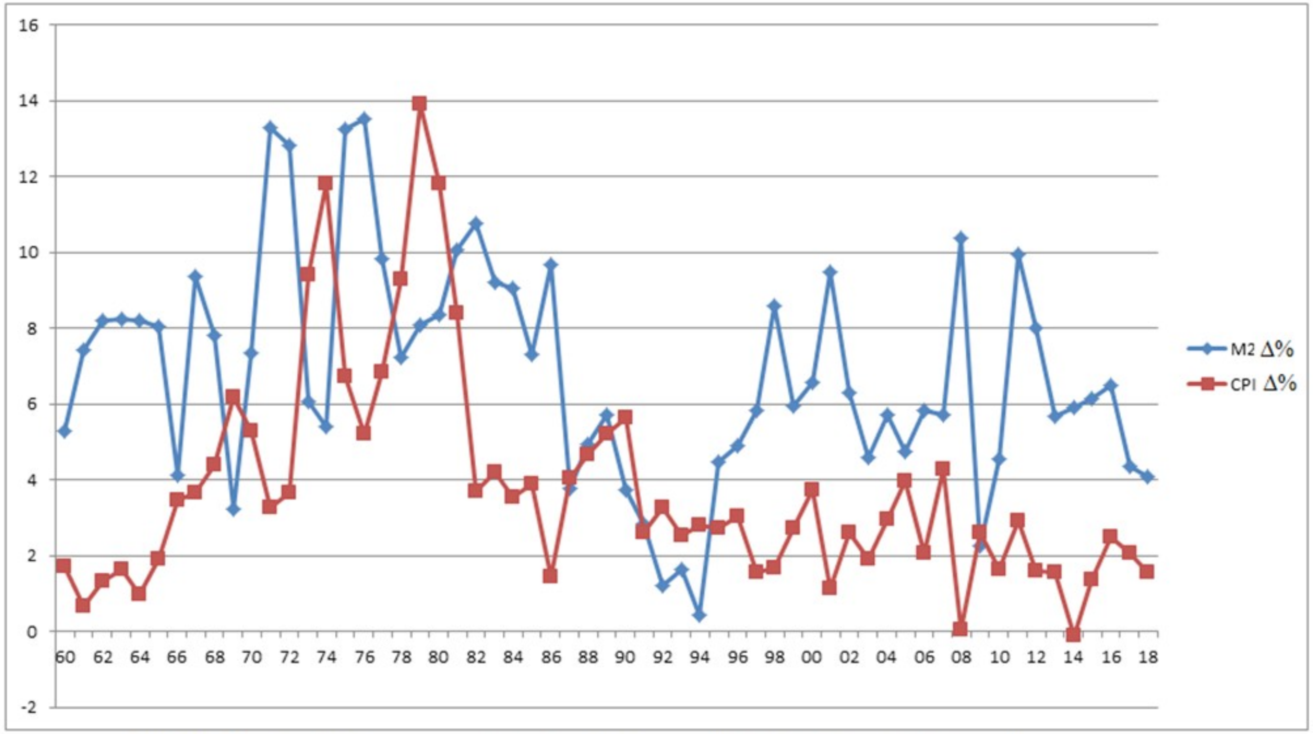
[54] 'M2' consists of funds that are available for spending, such as currency, traveler's checks, demand deposits, other checkable deposits (such as draft accounts) and savings deposits. See FRED (Federal Reserve of St. Louis, http://fred.stlouisfed.org/series/M2NS) on data regarding the US economy.

Figure 17 – *M2 versus CPI, Δ% in the United States, 1960-2018*



Source: FRED, Federal Reserve of St. Louis, http://fred.stlouisfed.org/

money which is a vicious cycle we are currently depending upon.

The arbitrary control of governments over the money available in the economy presents a real danger situation for the overall welfare. Friedrich Hayek was the first economist drawing an attempt to withdraw the idiosyncratic government control over the money supply. Hayek (1976) suggests that money supply should be freely allowed to be managed by private banks which would emit money at pleasure in their specific currency.

This way, several different currencies would be used by the general public for engaging in their regular economic transactions, and prices marked in each currency would adjust accordingly. If the issuer of a given currency emits too much money to the economy, then that currency will be weakening against the others because the prices expressed in that specific currency will climb, while the others remain standing still. Now, the general public will be losing confidence in the use of the oversupplied currency, thus leading to abandoning its use. In the end, only the best-managed currency will prevail. Apart from the practical difficulty of implementing such a monetary approach, the author shows that alternatives to the existing financial system are possible, and outlines the very important need for a money market self-regulation to ensure a healthy economy.

Assigning money supply to the market mechanism has never been done before. Thus the financial market, the labor market, and the market of goods and services, they all have always been in a struggle to keep their meager balance. Accordingly, the world has always noticed a huge number of economies where unemployment, inflation, and slumps are the norm. Moreover, fear and greed can easily spark wars and conflicts. But mankind does not have to submit unconditionally to the control of monetary authorities.

It is possible to ensure the regular money market equilibrium by letting economic agents act following a positive opportunistic behavior. The goal is to freely allow the settlement of prices and quantities between those who want to offer money and those who are demanding for it.

In what concerns the householders' money market, we have seen above that it is sufficient to just letting the economic agents engage in their usual activities. Since the money saved by moment zero lenders will be used by moment zero borrowers while the inverse will be happening in moment one. No loss will come out to the economy if the government ensures this dynamic.

Governments may easily enact that money cannot be created upon money saved by householders or firms; i.e., the money deposited in any bank account can only be lent once, up to the limit of its value. For example, if a man deposits 100 currency units in a term deposit for one year, then the bank is entitled to concede loans up to the limit of 100 currency units, and nothing else. This way, the economy ensures that no money rests idle unnecessarily, and no “empty” money is created for consumption purposes. Moreover, there is no reason for the bank to go bankrupt because the production process of the economy is not affected by this use of the saved money. The aggregate consumption of the economy rests stably between moments zero and one. The interest rate settled between economic agents has no significant power for disturbing the balance between aggregate production, aggregate consumption, and the total available money of the economy. Of course, banks may act as mere mediators, or facilitators, of this kind of transaction. This part of the money market rests in equilibrium, for the total quantity of money exchanged between supply and demand fulfills the desire of both parties, at the settled interest rate.

However, governmental troubles are sparked in what concerns the firms’ financial needs for deploying new productive units. As we have seen above, banks are allowed to create “empty” money upon which they will collect an interest rate. Furthermore, banks will often do it guaranteeing the contracting of collateral, which will be taken from borrowers in case of future settlement failure. Thus, *ceteris paribus*, albeit banks act has the providers of the entrepreneurs’ needed purchasing power, boosting the economic development in moment zero, banks, in moment one, also act as the economic executioner who, not only kill those who fail to succeed in their riskier investments, but also torture the entire economy by taking away a parcel of their productive process. It is not easy for governments to find a practical solution where firms are enabled to pursue their investment activities helped by the financial system while preventing the financial system from hurting the economy in the future.

According to the conceptual model presented herein, economic agents engage in an opportunistic behavior for fulfilling their physical and emotional needs. Banks, or any agent in the financial system controlling the money supply, must be expected to act opportunistically whatever the circumstances. Therefore, individual interests must move the motivation of each economic agent on the supply-side of the money market. By the same token, individual interests as well must move the motivation of each economic agent on the demand-side of the money market, which is assumed to be composed by the entrepreneurs. Hence, it is paramount to deeply analyze the different types of opportunistic behavior each one of the disparate economic agents may engage in, and understanding what kind of institutional environment triggers positive opportunistic behavior while inhibiting negative opportunistic behavior.

Negative opportunistic behavior comes out from either, the demand-side of the money market and the supply-side of the money market. Smith (1776) explains how right amid the XVIII century, some persons, allegedly entrepreneurs, engage in negative opportunistic behavior by living at the expense of the banking system by rolling loans between banks, always increasing the amount in debt. Though it may seem that these persons lived at the expense of the banking system, actually, they have lived at the expenses of the general public. Please note that the banking system simply provides capital for the deployment of investments. The banking system does not produce anything else beyond being a facilitator of means of payment for enabling economic transactions. Therefore, the consumption enabled by this "empty" money was pushing general prices higher. Thus these persons lived at the expense of the overall society, for banks created "empty" money out of nowhere (i.e., without carrying out any production at all).

Smith (1776) identified a form of negative opportunistic behavior which can be used by the demand-side of the money market, but others can be considered as well. Another situation exemplifying negative opportunistic behavior on the demand-side of the money market is posed by the agency problem, i.e., the problem arriving from the lack of information that the supply-side of the money market suffers in comparison with the information detained by the demand-side (Bernanke et al., 1999). Specifically, since banks do not access to the total information regarding their customers' business, then firms may deceive banks, making them to believe that their business is less risky than it truly is, therefore managing to contract loans at a lower interest rate, rather than the higher interest rate that it was suitable for the operation. Moreover, this misinformation may proceed along with the commercial relationship between a bank and a firm, contributing to a mismatch between the money settled quantities and applied interest rates. These practices usually favor the biggest firms while impairing interest rates applied by banks to the smaller firms' contracts. Hence, these deeds contribute indirectly to an increase in overall inequality and ingrained economic inefficiencies.

The third form of negative opportunistic behavior by the demand-side of the money market, more subtle, consists on firms managing to build a big involvement with the bank – i.e., firms manage to get a huge debtor position, which, in case of default, causes a serious possibility of a bank failure. Following this guideline, it is usually said that when the debt is small, the debtor has a problem; but when the debt is huge, the bank has the problem. Again, big firms are benefiting from this kind of arrangement in detriment of the smaller firms who do not reach this kind of negotiating power with the supply-side of the money market.

Finally, the fourth form of negative opportunistic behavior by the demand side of the economy is coming out from corruptive actions between the economic agents seated on the demand-side of the economy. The bankruptcy of Iceland's major banks in the financial crisis of 2008-2011 was fueled by corruptive practices. Kaupthing Bank was, at the time, conducted by chairman Sigurdur Einarsson who was indicted by orchestrating large-scale market manipulation conspiracies and sentenced to five years imprisonment (later reduced to four years in prison).[55] For instance, consider that the members of the Board of Administration of two different banks are further rewarded according to the increase of the stock market capitalization of each corporation. Then, these boards of administration may collude, and mutually agree, to provide each other with loans ("empty" money), with which they can buy the stocks of the competitor in the market. This scheme induces the prices of their mutual stocks to go higher enabling their boards of administration to be abnormally rewarded with huge amounts of money. This is accomplished at the expense of the general public who will support the increase in overall prices which will happen for the flooding of "empty" money in the economy. Imagination is the limit for the scope of action of corruptive practices.

However, negative opportunistic behavior on the supply-side of the economy is also very harmful to overall welfare. The bank industry can only grab a portion of the existing production through two different channels: by providing useful services to the economy (such as by providing the means of payment, by making it easier to engage in business operations between distant business firms, or by mediating the encounter between householders' savings and householders' borrower needs); and by creating "empty" money upon which interest rate will be paid. Therefore, the first form used by the financial system to opportunistically take advantage of the remaining society is by preventing the entry of competition in the money supply market while increasing the prices of their financial services. So, the first form of negative opportunistic behavior coming out from the supply-side of the money market is no different than the one we may expect to be coming from the supply-side of the market of goods and services – a monopolistic behavior whenever it is possible.

Another form of negative opportunistic behavior, almost exclusive of the banking system, is the contracting of collaterals when conceding loans grounded on "empty" money. When the bank lends some money to an entrepreneur, enabling him to engage in a new business operation, the bank is expecting to receive this money in the future plus an interest. In moment one, this new money is going to be used by the bank for their usual expenses, hence for consumption; although the bank had a meager contribution to it. Banks, among the whole economic agents, have the exclusive right of consuming without producing anything at all since the money created in moment zero costs nothing to create – nothing at all! Furthermore, in moment one, banks are entitled to collect an interest rate upon the money created in moment zero. Usually, in moment zero, collaterals are used as guarantees, which the bank will hold in moment one in case of entrepreneurs default. Hence, the bank risks nothing at all when creates "empty" money and lends it to the entrepreneur, while getting a hand grabbing at least a portion of the entrepreneur's assets. Therefore, in moment one, the result of this business relationship has two possible outcomes: (1) the entrepreneur returns to the bank the "empty" money created in moment zero, plus interest, which the bank will use for its regular expenses at pleasure; and (2) the entrepreneur's investment fails and the bank triggers mortgages and obtains the possession of the entrepreneur's assets.

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[55] See https://uk.reuters.com/article/uk-iceland-bankers/iceland-convicts-bad-bankers-and-says-other-nations-can-act-idUKKBN0LH0OC20150213

Therefore, one very plausible negative opportunistic behavior developed by the money supply-side of the economy is grounded on greed, i.e. the incentive that our current financial system concedes to banks for grabbing a significant parcel of the total production. In the first moment, banks want to provide the economy with as many loans as possible, for it is the path for future huge consumption. Additionally, also in moment zero, banks want desperately to lend money grounded on collaterals, for, if the investment goes wrong, it is their way to take possession of the assets that are in private hands in the first place. Finally, driven by negative opportunistic behavior, banks may easily deny providing the economy with further loans in moment one, thus forcing the economy to hold back while enabling them to get in the possession of a bunch of interesting collaterals. With time, driven by greed, bankers will own the world (especially the bigger ones).

It is worth outstanding that the major banks may drive smaller banks to bankrupt throughout this late expedient. The reader may notice that those who have more "empty" credit conceded are the ones entitled to collect more collaterals. Also, those banks are the ones who reach a larger portion of the population. Therefore, when these bigger banks deny further credit to the economy in moment one, the entire population will feel the economy holding back, being the smaller banks less prepared (likely undercapitalized in comparison with the bigger banks) to bear this impact. Hence, the smaller banks may go bankrupt, in a similar effect of what has happened during the Great Depression, as depicted in Part III. Bigger banks' negative opportunistic behavior may deliberately cause the bankruptcy of smaller banks in the economy.

It is important to realize that it does not make any sense that additional costs, such as collaterals or interest rates of any kind, are being collected on "empty" money. Collaterals remove assets from productive hands to put them in the possession of unproductive owners while jeopardizing the trust of society in the financial system. Society is already paying for “empty” money by having to bear higher product prices when consuming. There is no need for further costs.

All in all, negative opportunistic behavior is coming from both sides of the money market and must be inhibited. We will see ahead how it can be done. I believe it is important to realize how positive opportunistic behavior is also embraced by both, the supply-side and the demand-side of the money market, before dealing with the possible solutions for getting a balanced market regarding “empty” money. Nonetheless, it is highly relevant to understand that the monetary authorities are supposed to act on behalf of governments, which requires analyzing the government’s possible negative opportunistic behavior.

Governments are the first, and foremost, users of “empty” money. Figure 18 shows that, in the United States, public debt, in the percentage of GDP, is the most representative form of debt of the economy (and there is no evidence that it is somewhat different in other countries worldwide). But governments usually need to build infrastructures, such as harbors, bridges, roads, railways, schools, hospitals, and other facilities to ensure conditions for private initiative to be built upon. Hence, in the first place, and in the absence of private savings to depend upon, governments must depend on “empty” money (i.e., new money just created for providing the government with the purchasing power which enables it to deploy public investments). Nonetheless, the increase in prices that this “empty” money creates in the economy is paid by the entire society, but the entire society gets all the benefits coming from these investments as well.

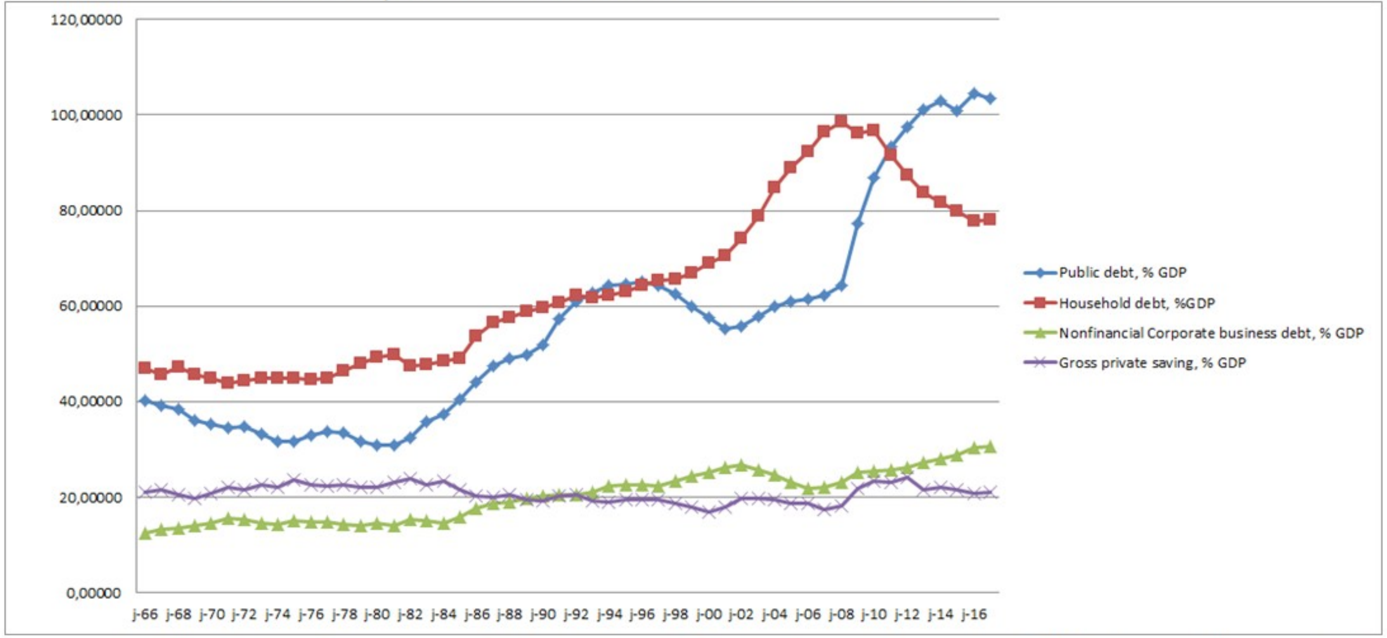
Please note the huge difference between repaying money that is lent on the savings of a householder comparing with paying back “empty” money. The savings of a householder represent production that has been made but has not been consumed yet. This happens, for instance, when durable goods are produced at moment zero but destined to be consumed in moment one. The wage of the householder is paid at moment zero for his production. So, if the householder chooses to consume this durable good in the future, he can do it by using the money saved in moment zero. Thus, if the government uses householders’ savings for deploying its investments it is required to returning this lent money in the future. The economy registers no loss, nor unbalance at all. However, when the government uses “empty” money to engage in its investment activities the economy starts adjusting in moment zero, recovering balance within a little time lag. Nonetheless, it does not make any sense that interest rate, or even payback, may be allowed because there is no loss whatsoever to be repaired; no production was saved in moment zero to be consumed in moment one. In moment one, the whole of society has already paid with inflation. Still, as depicted in Figure 18, public debt is the most significant form of debt of the economy and is paying interest rates without being considered if the money is coming from householders' saving money or "empty" money. Looking at Figure 18 it is crystal clear that most of the public debt is coming from "empty" money, for gross private saving in the percentage of GDP is always a lot less significant than public debt is; yet the community pays interest upon it!

Governments usually act in a positive opportunistic strand, trying to provide the economy with the infrastructures upon which private initiative can be boosted for the enjoyment of the whole society. However, governments act on a negative opportunistic strand when deploying a given facility or infrastructure that is useful in a given moment but failing to remove it when the private initiative does better than the government. This happens when it is cheaper resorting to private services rather than insisting on using public services. For instance, while public railways may have been useful in a given moment in time, there is no need to perpetuate those services when the population is giving preference for using private transportation instead. In this particular situation, governments need to stop carrying on this service, otherwise they only have two options for keeping them alive: (1) collecting useless taxes for keeping those services on, despite they are not needed; or (2) financing those operations with "empty" money which currently will increase government's public debt. Either way, governments do it at the expenses of the entire society, particularly at the expenses of the society's members occupied in the nonfinancial corporate business, which will bear inflation in moment zero, and higher taxes in moment one for paying back the "empty" money first lent, plus interest!

Frequently, this government's behavior is also induced by a desire of causing no unemployment increase which, in the end, they will be forced to by ending up with the useless railroad service of this example. For this unpopular measure will cost votes, governments opt for feeding their hope of forever resting in power. However, by avoiding taking the measure, governors doomed themselves and the whole economy to be worse off in moment one. According to our current institutional context, when it comes to government behavior, an initial positive opportunistic behavior may easily become a negative opportunistic behavior in the future.

Firms and banks' positive opportunistic behavior also happen in the economy, and that is exactly what has brought mankind this far. Firms, following Schumpeter's (1934) arguments, foster economic development by developing creativity, know-how, and innovation, leading them to identify new ways of producing the goods and

Figure 18 – *Overall debt, percent GDP, United States, 1966-2018*



Source: FRED, Federal Reserve of St. Louis, http://fred.stlouisfed.org/ and IMF, https://www.imf.org services which will fulfill society's wants. It is exactly for this reason that the pace of development seems to be endless. Thus, entrepreneurs' positive opportunistic behavior is triggered by their self-interest, seeking to improve their living conditions by engaging in a new business endeavor, which is necessarily dependent upon their ability to fulfill the needs of other members of the society wanting to pay for the new product or solution. Overall welfare is increased whenever a new investment endeavor succeeds.

By the same token, this benefit collected by the society could not be possible had the banks refused to provide the purchasing power the entrepreneurs needed to deploy their new investments. Similarly, banks pursue their self-interest; aiming at grabbing a portion of the overall total production of the society. But banks and entrepreneurs' interests get together to improve overall welfare. This happy marriage also happens between governments and banks, at moment zero, when governments need to build public infrastructures for supporting the private initiative. Progress is built upon this well widespread social cooperation; yet each member of the society is usually pursuing their interest. It is thus necessary inducing overall positive opportunistic behavior while inhibiting negative opportunistic behavior and ensuring that the money market finds its equilibrium.

Summing up what has been argued regarding monetary issues leads to numbering a few crucial ideas. First, price changes are insensitive to inflation at low inflation rates (Alvarez et al., 2019). Second, the linkage between money and production must hold (Bortis, 2004). Third, arbitrary changes in the rate of monetary growth must be avoided (Hayek, 1976; Tawadros, 2009; Ebenstein, 2012). Fourth, "empty" money should not be reimbursed nor allowed to collect interest. The theoretical and empirical evidence supporting these ideas are too strong to be ignored.

For building up economic success (which is the same as consolidating overall welfare), and in addition to the already complex world of the financial department of our society, we need to take into the equation the variables of productivity and government efficiency. Productivity depends on the dimension of the available market which, in turn, depends on the mutual existence of sellers and buyers. Therefore, productivity depends on the mutual existence of firms[56] and householders. Consequently, both the equilibrium in the markets of goods and services hand in hand with the equilibrium in the labor market, are paramount for sustained economic development. Finally, one strand of government efficiency depends upon the capacity of the executive for foregoing governmental companies or departments whenever their utility is diminished compared with alternative uses. This can only happen when governments stop being afraid of causing unemployment. Only by properly mixing the four economic agents – producers, householders, governments and banks – for developing overall social cooperation, it is possible to reach the highest stage of civilization.

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[56] Please note that, in this sense, 'firms' may as well be thought as a laborer working by himself, as it is the case of a lawyer, for instance. Laborers and entrepreneurs are the ones producing the goods and services for the enjoyment of the community. Banks and governments are facilitators.

So, the regulative environment that may sustain the money market equilibrium depends upon three simple guidelines. First, consumer credit can only be granted on householders' savings and, therefore, ought not to be used as a lever for money supply. Second, firms and governments are the only ones who need to have access to "empty" money. It is worth noting that private investment and public investment acquire the same importance for economic development. Both need to succeed in improving our living conditions. Moreover, both private and public investments must be stopped, and shut down, when they are proven useless; otherwise, society is unable to efficiently use the available resources. Third, and finally, "empty" money creation must be limited to lower inflation rates; below 5.0 percent a year according to Alvarez et al.'s study (2019). These three steps enable the continuous stability of any country's financial system.

These three guidelines may trigger banking industry survival fears, thus require further analysis.

The reason why bankers' fears may come out rests on their possible assumption that interest collection is their unique way of acquiring the purchasing power they need to survive. Despite the society is not always aware of it; banks are entrepreneurs' business associates when an investment is financed on "empty" money. Hence, banks pursue their interest (one finger from Adam Smith's economic 'invisible hand') by lending money that did not exist before in the economy while being entitled to receive in the future a fraction of the entrepreneurs' production. Banks are a firm's business special associate; one entitled to grab part of their profits. If the regulative environment allows this particular bank's right to hold, then the banks' survival is not at stake just as long as firms' utility remains. Consequently, instead of moving away from the company's capital structure, as it happens now after the firm having reimbursed the initial credit conceded by the bank, banks may be entitled to remain in the firm's capital structure association just as long as the society is alive. Hence, banks will have access to the firms' business profits by the same simple process as entrepreneurs do. This way, banks' survival fears will rest in peace.

This proposed financial regulative framework is both suitable and slightly different than the one we are living in. Nowadays, banks enter a company's capital structure for leaving it somewhere in the future. By doing this, the only way banks are allowed to survive is by pursuing "empty" money creation even when the economy does not need it. Moreover, and dangerously, when the economy does not need additional money for further investments, the only way banks are allowed to survive is by taking money away from the economy. Recall that I assume surviving is the foremost priority of a human being and, according to Damásio (1999), there is no reason to think otherwise. So, there seems to be plausible that a bank always will be prone to safeguard his survival. But there is no reason whatsoever why a bank must leave the capital structure of a given company. By accepting this relationship (which is already a reality in a wider majority of existing firms), banks and firms may engage in a mutual relationship that may prevail as long as the firms' productivity is ensured. Banks will be remunerated according to the social agreement made with remaining associates, members of the company's capital structure. The difference that stands out between this proposal and the current regulatory financial framework is that the bank will enter a relationship with a company fostering its permanent success, and agreeing to be rewarded permanently, instead of temporarily.

What is then the gain for the society? Banks will always be acting towards embracing the most profitable opportunities presented by entrepreneurs for they will be partners. This way, both entrepreneurs and firms will be looking for the best deal according to their best interests. Firms will be looking for the bank which offers the best-foreseen partnership opportunity, while banks will be preferably embracing the most profitable opportunities presented by entrepreneurs. In this proposed regulatory framework banks are freely allowed to create "empty" money while inflation is kept under control, below 5.0 percent, following Alvarez et al. (2019) guidelines. Monetary authorities will be granting that banks only may create "empty" money under these premises while watching that no consumer credit is conceded on "empty" money. The most relevant gain for society is that a bank failure will not cost anything to society anymore.

In this proposed regulatory framework, the only way a bank may go bankrupt is by the disappearance of its partner firms. When that happens, the firms' assets will be split among its owners according to the usual functioning of the law applied in these circumstances. Since a separation between householders' money and "empty" money is tightly controlled by monetary authorities, no householders' money may be used by the banks for financing their current expenses. The strand of an investment bank may disappear without compromising the usual granting of means of payment to the economy. Moreover, because involuntary unemployment is not allowed, then the bank's employees may easily find themselves another useful occupation right away. The eventual disappearance of all firms where the bank is involved does not mean any burden to society. In this proposed framework banks may go bankrupt without causing any harm to the society.

Banks and entrepreneurs' positive opportunistic behavior is enhanced. More than ever, banks will be gladly supporting good investment projects while moving away from doubtful ones. The most competent banks evaluating investment projects will be the banks enjoying the highest returns, while those banks that are not good at it will disappear. The renewal of both banks and firms' businesses will go on in a mutualism relationship that brings value to the society, without causing too much suffering when they fail. Furthermore, banks will lose any kind of bias towards favoring friends, or any kind of relationship based on personal preferences, for it would mean risking reducing bank's potential earnings in the future, and the loss of an opportunity for creating "empty" money devoted to a very good endeavor. Based on positive opportunistic behavior, economic development, as defined by Schumpeter (1934), will achieve a power never attained before.

What happens then when inflation reaches its upper limit? At this point, monetary authorities do not allow any creation of additional "empty" money by the banks. Consequently, new investments may happen solely using householders' savings, which is the same as forcing entrepreneurs to use saved profits for the deployment of new endeavors. Thus, this process safeguards the overall society, ensuring that no one will be threatened with useless, and harmful, inflation.

The relationship between banks and private entities may easily be extended to public partnerships. Notice that, by the same token, as banks may join the capital structure of a private company, banks may also join the capital structure of a public company. Governments will gladly be apt to forego any bad public investment as it turns out that closing the endeavor is the proper thing to do. Banks will be cautious about being involved in a public endeavor if they suspect that the investment may become a future failure. Hence, instead of enthusiastically being granting public debt for future collection of "empty" money and interest, banks, in this proposed regulatory framework, will have to carefully scrutinize the public investments that bring value to the entire society, and proceed to their evaluation based on a long term utility.

Freedom of engaging in a business endeavor is thus crucial for efficient resource allocation in the economy. If the private sector is not providing the goods and services at the lowest possible price, the government may opt to provide those services himself. If the government is poorly providing a public service, then the private sector of the economy may fulfill those needs. Therefore, positive opportunistic behavior is enhanced while negative opportunistic behavior is inhibited for any kind of abusive positioning that will be overcome by another economic agent. This can only be possible under wider freedom to establish a business unit.

By jointly balancing the three economically significant markets – the labor market, the market of goods and services, and the monetary market – is likely the only way to foster all-inclusive positive opportunistic behavior. The most relevant implication of this overall balance is that it naturally sustains a full employment reality, whilst being sustained by full employment itself. Otherwise, social and economic balances will be at stake, and those who own the means of production will keep those resources away from the remaining community. Therefore, I herein state that the only way for building a sustained full employment reality is by granting the simultaneous equilibrium of the labor market, the money market, and the market of goods and services.

Contrarily to the general public beliefs, governments are never one hundred percent responsible for an economy´s sustained economic development. Governments must rely on the market exchange mechanism because a sustained economic development requires an increase in production *pari passu* with an increase in consumption. However, the trading process between householders and producers entirely depends on the availability of enough money to perform the economic transactions at the expected prices. Hence, the sustained economic development demands solid coordination between producers, consumers, and the financial industry, which, currently, cannot be fully controlled by governments simultaneously.

However, governments may set up the proper institutional context enabling positive opportunistic behavior and inhibiting negative opportunistic behavior, creating the conditions for a sustained economic development to emerge. This can only be made by ensuring the simultaneous equilibrium in the three significant markets: the labor market, the market of goods and services, and the money market. If one of these markets is out of balance it means that it is required to face an adjustment regarding the price, or regarding the traded quantities, or both, to fulfill the expectations of both aggregate supply and aggregate demand. If one of these markets is out of balance then the remaining markets will be out of balance too; which means that at least a fraction of the population is not happy with the outcome of the economic process, and is suffering. Hence, governments need to seek overall market equilibrium to make sure that they are not impairing a fraction of the population.

Leading the economy into a stage of an automatic pilot cruise is a safe way for governments to accomplish the desired sustained economic development. Otherwise, error and trial seem to be the remaining option; which is likely going to cost someone a lot of pain and suffering. Moreover, leaving the economy at the mercy of negative opportunistic behavior surely adds a component of uncertainty which cannot be welcome by any government.

Herein I have explained some guidelines crucial for engaging the economy into an automatic pilot mode towards sustained economic development. This required institutional context does not demand any significant change in the way firms, householders, and banks interact; nor a significant change in the way people produce and consume. In one hand, it simply requires a slightly higher degree of freedom: for firms to dismiss, hire and settle the wages they like with their employees; for laborers to accept wage and time schedule negotiations; for entrepreneurs to freely enter the business of their choice; for governments to forego useless public services and to pursue useful investment projects; for banks to grant “empty” money according to economic needs; and for banks to engage in a full partnership with private firms and public companies.

On another hand, it requires ensuring full employment in the economy, and the continued vigilance of the central bank authorities for preventing inflation from climbing above 5.0 percent (or less if it is understood to be suitable). This is a safer economic environment, particularly because banks will be creating “empty” money consciously and cautiously. Instead of having a stimulus for manipulating monetary variables opportunistically in their self-interest, banks are now induced to resort to positive opportunistic behavior, for banks gain is tightly bonded to their associated firms’ success. In this proposed institutional context no single economic agent can take advantage of others consistently, and positive opportunistic behavior will be the widespread norm in the economy.

This proposed institutional context takes care of every member of the society without leaving anyone behind. Firms may go bankrupt without precluding their laborers and owners from proceeding with their lives. A bank may go bankrupt without impacting the financial system at all. Aggregate demand will hardly fall back aggregate supply for a long time; therefore, slumps will be minimized in magnitude and duration (even permanently eliminated). And finally, overall productivity is maximized, reaching a stage never reached before, leading welfare to levels ever seen.

The economy will be able to reach a stage were reason is controlling fear and greed, and a continuous sense of being part of a community acquires true meaning, regardless of any kind of government’s ideal. This proposed institutional environment enables the most efficient resource allocation mankind ever knew. Up till now, economic inefficiencies brought by issues such as unemployment, over-investment, non-market activities, poorly driven monetary policies, and unsustainable lending practices, all of them gave a significant contribution for both the Great Depression and the Great Recession (Kaufman, 2012; Backhouse, 2014; Eichengreen, 2016; Magliulo, 2016; Duca, 2017), and punish innocent people with underproduction, misery, and pain; which, as shown above, are severely worsened by letting fear taking collective control over the community. Moreover, by letting some members of the community unable to survive, living in unworthy conditions, the institutional context sets up a dangerous sense of anguish that impairs the community's feelings. Those are never productive environments. Conversely, continuous renewal of positive feelings will be the norm, and welfare will be further improved.

Why politicians will make it happen

Given the above-mentioned arguments, I believe, from the bottom of my heart, that governments will enact a full employment reality real soon. However, the most notable motive why I have this conviction regards the political importance of not leaving anyone behind.

An irreverent world citizen, happening to be a friend of mine, used to say: "*I have nothing against rich people, but I want to end with poverty*." He used to be actively involved in the political activities of a somewhat conservative party. In a general sense, there is a wide view regarding the main goals of both the right-wing policies and the left-wing policies which go as follows: (1) the right-wing policy is supporting the idea that it is mandatory to produce first to distribute those goods afterward (accordingly there is no welfare production without entrepreneurship); and (2) the left-wing policy is supporting the idea that those who control the means of production abuse from those who do not and, cumulatively, rich people do not fairly distribute production among laborers (accordingly there is no welfare production for the entire society). Therefore, both sides are worried about overall welfare, though facing troubles for balancing the whole economic agents' opportunistic behavior. The solution presented herein offers an improvement to every member of the society and does not leave anyone behind. That is why I truly believe that governments will put it in place real soon, regardless of their political proclivity toward the 'left-wing' or the 'right-wing'.

These considerations regarding wings of political proclivities need to be underlined. Notice that, under a full employment enacted reality, rich people get richer while poor people cease to exist. Because our first reaction is always the emotional one, we doubt that it is possible to enrich rich people while reducing the poverty of the most unfortunate members of our society. That happens because we react instinctively thinking that people get richer at the expense of the poverty of someone else. Our first emotional thought is grounded on a sense of having to share the society's available income, without realizing that overall income is increased under a full employment reality. Rich people get richer not because they grab a bigger slice of the pie, but because the entire production of the society gets bigger (the pie grows), and rich people are the ones who directly control the means of production. Poor people cease to exist for every laborer can both find a job and demand a higher wage for his work. Indeed, banks will finance every promising investment project, overall productivity increases, and the number of unused resources is significantly reduced. Nonetheless, this analysis only applies if the institutional environment is built safeguarding both the freedom of economic agents to act and the existence of an adequate financial system. Instead of favoring a given fraction of the society, by enacting full employment under a proper legal framework, the government will benefit the whole population.

Regardless of political considerations, the literature highlights the existence of country differences concerning the disparate regulative frameworks around the world conditioning economic agents' behavior. La Porta, Lopez-de-Silanes, Shleifer & Vishny (1998, p. 1114) pose that "*law and the quality of its enforcement are potentially important determinants of what rights security holders have and how well these rights are protected*," and further outline that "*the differences in legal protections of investors might help explain why firms are financed and owned so differently in different countries*." The authors put forth that the world commercial law is under the influence of three legal major families that originate from French, German and Scandinavian traditions. Hence, these differences set disparate legal frameworks that shape each country's economic agents' behavior. Therefore, the enactment of full employment, and the implementation of the measures which allow the whole markets to be balanced, mostly depend upon a different set of economic boundaries comparing with the existing ones worldwide.

All in all, the starting point simply demands a government's committed care, fostering positive opportunistic behavior while inhibiting negative opportunistic behavior; and the entire society will be living better.

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Discussion

In this work, I address the effects of full employment for the overall welfare. Although prior literature has always addressed the theme of full employment as the endpoint of a successful economic policy, I follow a converse approach by asking why full employment cannot be the starting point of any economic policy.

When I started learning economics at the university, getting the first touch with the concept of gross domestic product, I astounded at how good could the whole society live if resources were better distributed. In 2017, and according to the World Development Indicators disclosed by the World Bank, United States GDP per capita is US$ 59,531.66, leading to a four-member family average income of US$ 238,126.65 in this great country. Yet 552,830 people were homeless in the United States by 2018.[57] Thus, almost thirty years have gone by now, but the world is still struggling against poverty and stubbornly facing inefficient resource allocation.

A few issues apply when thinking about enacting full employment in the economy.

The first issue regarding setting up full employment as the starting point of any economic policy is a distribution issue. Do we have enough resources for feeding the entire world population? In 2015, according to the data disclosed by the World Bank,[58] the world GDP was an astonishing US$ 667,199,636,549,551.00, whilst the total world population amounts to 7.383.008.820 inhabitants. Therefore, roughly, in 2015, the world was having an average income per capita of US$ 90,369.61. This number suggests that ending poverty is possible. Furthermore, this number suggests that the world has a problem with income distribution.

Despite questioning the existence of enough resources for feeding the entire world may seem a false question, I believe it is the most important question the world must deal with nowadays. It may seem a false question because a US$ 90,369.61 annual income per capita suggests that anyone may live well in this world. However, if the money available in the economy for exchanging goods among every member of the society was evenly distributed then the demand for the available goods and services would climb. The increase in the demand for food would lead to a rise in its price. Because fear sets the pace of our behavior, those who own either the available money or the available resources are surely afraid of losing control. For them, looking at prices going up will mean a loss of their purchasing power. That is why providing a clear answer regarding the availability of resources is a very important matter, for the opposition of those people will likely be ferocious.

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[57] According to “The 2018 Annual Homeless Assessment Report to Congress” prepared by the US Department of Housing and Urban Development.

[58] See http://datatopics.worldbank.org/world-development-indicators/themes/ economy.html

Finally, there is a historical issue to consider. Historically, we must analyze two distinct situations: (1) the perpetuity of wars worldwide; and (2) the historical income distribution. First, the world has always lived among wars, conflicts, and disputes, under a historical perspective that some men can be superior to others somehow. It seems plausible that these aggressive efforts are related to both fear and greed, which spur impetus for acquiring control over the goods and productive units owned by others; and, therefore, safeguarding the future of their community at the expense of others' suffering. Again, it seems to me that this has happened under a mental framework of a lack of control of the rational over the emotional.

Another point worth mentioning regards to historical income distribution. The distribution of income has always been an issue the society had to deal with. In the XIX century, following David Ricardo's guidelines, Ferdinand Lassalle[59] posited his "Iron Law of Wages" supporting that wages could not go further away from the minimum level necessary for sustain the laborers' subsistence (Sousa, 1988). Hence, the income (which is the same thing as the entire production) has never been fairly distributed among men, being widely accepted that those who own the means of production are entitled to slightly keep alive the laborers they need to perform the work in their productive units.

A final historical event deserving to be outlined is a curiosity in the history of Israel when, at times, wealth was evenly distributed every seven years had gone by, while, at the end of each seven years, wealth inequality was again uneven (Sousa, 1988). So, historically the society widely accepts inequality in the distribution of income.

However, and remarkably, history shows that it is through social cooperation that economic development is built upon. Just as the thirty-three miners had to choose between cooperating and sharing the existing resources, or fighting among themselves instead; so the world has now to decide if our choice is to fight among ourselves or share our resources, and build a thriving society. The thirty-three miners chose to share their sufferings and their successes. Lawrence Golborne chose to do his best for them. History has shown that politicians can do good things for society.

Politicians are still missing a solid theoretical base to engage in such an endeavor. Hence, it is paramount to understand the required mechanism to ensure full employment as the starting point of a successful economic policy. For decades, economists have been presenting formal economic models assuming full employment as an economic reality, e.g. Krugman (1979, 1980); but politicians still have not been able to translate it into a factual truth. The main economic theories developed so far provide a solid ground force for clear reasoning on what might be the effects of enacting full employment in an economy. This work aims at providing a second step, hoping that other economists will follow.

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[59] Ferdinand Lassale (1825-1864) was a writer and German politician.

In both theoretical and empirical terms, the economic problem is simply about answering the question of how to completely set a perfect match between production and consumption. Theoretically, inefficiency occurs unless this encounter is perfect. Matching production with consumption throughout the entire society poses a distribution issue. All in all, the activities of production, distribution, and consumption are all dependent upon human behavior. Finally, human behavior is dependent upon emotions (at the micro-level), human behavior is bounded by the institutional context (at the macro-level), and human behavior is directed by flashes of rationality (at both micro and macro levels), which provides the means for controlling emotions and developing adequate institutional settings. Empirically, the extension of the world sufferings caused by the Great Depression in comparison with those experienced by the world with the Great Recession, shows that mankind's rationality took one step forward, and learned from history. Thus, for it mostly relies on the requirements for consistently ensuring the equality between production and consumption, I am expecting the herein presented theory to be useful for future governments worldwide.

Full employment theory poses a different theoretical approach from past economic theories. Theoretical differences are usually based in assumption asymmetries – which lead to disparate rationales – or are based on hypotheses variation. According to Milton Friedman, rationality is the ability to thinking clearly (Ebenstein, 2012). Thus, in what concerns to economic matters, rationality is the ability to both control emotions (either individually or collectively) and implement the best institutional context for fostering social cooperation, leading to the highest possible standards of efficiency in resource allocation and welfare achievement. The assumptions in which past economic theories are based upon were herein scrutinized under the presumption of their validity and contribution for the overall welfare. Moreover, the assumptions which ground the theory of full employment are fully explained, and resort from both empirical facts and the confirmed relationships identified by prior economic theories. The main difference is set by inquiring if the economy may start from a stance of full employment, which is a hypothetical scenario that has never been considered by prior economic theories.

I must underline that the theory of full employment is not challenging any existing theory whatsoever; it aims at integrating our economic knowledge instead. For instance, by the time of the Great Depression, there was a strong cohort of economists attached to the Classical theory, allegedly bonded to demand-supply theory. These men supported that the proper economic measure governments should have token by then was to allow wages to decrease to enable firms retaking their usual productive levels, and selling at lower prices while bearing lower production costs. By 1929, a New Era wage theory was consolidating, particularly after Ford had so successfully introduced his revolutionary human resources policies, and a wide number of economists, such as Irving Fisher, Frank Taussig, Allyn Young, Thomas Carver, and John Commons, all supported the idea that if the market wage is less than the living wage then the price consumers pay for a product or service can no longer cover all production costs. Hence, New Era wage theory contended "*that society should set a floor so that wages – or more generally living standards – cannot go below subsistence level (where subsistence is in part contingent on the historical era and national culture)*" (Kaufman, 2012, p. 511). Thus, while classical economists supported that wages should go down whenever firms considered it adequate, New-Wage theory poses that "*paying higher-than-market wage, or refraining from cutting wages, may actually generate greater profit for firms because of reduced turnover, greater work effort, stronger employee loyalty and morale, and stimulus to innovation*" (Kaufman, 2012, p. 512). The theory explained in this work does not support either approach, although it embraces both.

Specifically, for relying on the absolute need for matching production and consumption, aiming at reaching efficiency, we need to look at the tools which enable economic transactions to occur. Based on the facts of common sense as posed by Keynes (1936) and Schumpeter (1934), we may say that money exerts its most fundamental role regarding a transactional purpose. Under a full employment reality, being the markets balanced (meaning that prices and wages allow total production to be consumed), economic transactions occur under a given amount of available money. If the amount of available money in the economy is reduced somehow (for instance, by any arbitrary manipulation such as a credit reduction or an increase in public debt interest rate) then the only way the total production can be exchanged, allowing the same total consumption to occur, is by having a reduction in the prices paid in each economic transaction taking place. Accordingly, in this scenario, wages must decrease to maintain the same economic relationships which were in place before the exogenous shock had occurred in the economy, namely the same employment level. In other words, when the available money is reduced in the economy, a downward price adjustment (which includes the price of labor) is required for maintaining both the usual exchange rates and the same number of transactions in the economy. Hence, this reasoning follows the Classical theory's approach. However, under an exogenous shock retrieving money from the economy, it is notorious that the number of initial transactions can only be kept equal to its starting point if the number of employed people remains standing still. Now, conversely to what Classical theory advocates, firms should not be allowed to dismiss employees because that will cause a huge reduction in the demand directed to the products they will be wanting to sell, leading firms to surely fail. By this token, the theory of full employment embraces New-Wage theory. Full employment theory calls for governments to fine-tune their countries' institutional context by enacting full employment, preventing money availability from being reduced in the economy; and increasing economic agents' degree of freedom to engage in any kind of trading activities, matching aggregate demand with aggregate supply.

It is required a strong legitimating position for governments to change the institutional environment. The literature has already addressed the troubles caused by institutional voids, such as unclear regulatory frameworks, inexperienced bureaucracies, underdeveloped court systems, and institutional settings with corruption issues and weak property rights protection (Kostova et al., 2008; Chan et al., 2008; Abotsi & Iyavarakul, 2015), particularly regarding its effects, increasing transaction costs. It stands out that these accrued transaction costs are mostly driven by negative opportunistic behavior which fosters economic unbalances favoring a small fraction of the society at the expense of its remaining members. Accordingly, society's disadvantaged members react whenever they can, and trust among economic agents is often jeopardized. Nonetheless, governments have a real difficulty avoiding messing up with the power relationships already established in the society; for repairing socioeconomic unbalances always seems to be performed at the expense of someone.

What are the causes of market unbalances? The question gathers accrued meaning when we realize that fear and greed are often the cause of disequilibrium. Existing constraints – in the labor market (by wage rigidity for instance), in the markets of goods and services (by settling quantity limits in the production of several goods and services), and in the money market (by resorting to credit limits and interest rate manipulation) – are, as shown in Part III, often emotionally driven. If an exogenous shock occurs in the economy, and it is not stemming from human behavior, then regular market functioning naturally promotes the adjustments through the pricing mechanism. There is no need for human intervention fixing those exogenous shocks. Thus, being the markets consistently unbalanced, that must be because some sort of arbitrary human action is preventing regular uniform human behavior from happening. Hence, overcoming market unbalances requires understanding the roots of human opportunistic behavior.

There is a deep connection between human behavior, the financial system, and the existence of employment. This is not a political discussion but rather an economic one. The most important reflection that is mandatory regards, no doubt, the efficient use of available resources for increasing overall welfare. Adam Smith set the inception, and was followed by David Ricardo, Karl Marx, Joseph A. Schumpeter, John M. Keynes, Friedrich Hayek, Franco Modigliani, Milton Friedman, Oliver E. Williamson, James A. Mirrlees, Joseph E. Stiglitz, Paul R. Krugman,[60] and many other economists who have always tried to provide a deep thought on building a better world. The interplay among governments, financial institutions, firms, and householders sets the pace of economic development.

The liaison between human behavior, the financial system and the existence of employment are thus the essence of mankind's evolutionary step, rather than a revolutionary one. Greenwood & Hinings (1996, p. 1024) state that "*revolutionary and evolutionary change are defined by the scale of upheaval and adjustment*," and "*whereas evolutionary change occurs slowly and gradually, revolutionary change happens swiftly and affects virtually all parts of the organization simultaneously*." The herein proposal calls for slow and gradual increments of social cooperation for fostering overall welfare. It does not accrue significant upheaval because it does not cause any harm to anyone, albeit it significantly improves overall well-being. It is mandatory though to perform an adjustment regarding overall market equilibrium; i.e., it is mandatory to enact full employment and to introduce crucial adjustments in the financial market for ensuring the required money market balance. Everything else may remain as it is. The herein proposal is an evolutionary one.

Theoretically, the herein proposal is simply the integration of the Classical, Keynesian, and Schumpeterian economic theories, consolidated with the analysis of the impact of opportunistic behavior for the efficient allocation of resources. It is not possible to conceptualize behavior without considering how emotions and circumstances interact. That is why fear and greed are analyzed at either the microeconomic or the macroeconomic levels. Damásio (1999) explains that emotions always take precedence over feelings and that rationality does not always acknowledge emotions; although, as the author outlines, emotions are always affecting our behavior. Hence, by mixing the emotional essence of the human being with the theoretical logical steps economics has been able to develop so far, mankind shall be close to finding insightful solutions for increasing overall welfare.

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[60] Franco Modigliani was awarded the Nobel Prize in Economics in 1985, James A. Mirrlees was awarded the Nobel Prize in Economics in 1996, Joseph E. Stiglitz was awarded the Nobel Prize in Economics in 2001, and Paul R. Krugman was awarded the Nobel Prize in Economics in 2008.

Throughout mankind's aging, society evolved from the hunters' society to the industrial society we are living in by increasingly releasing mechanisms of trust upon which social cooperation can develop from. Likely any tool we are using today, or any good and service we are enjoying, is made of hundreds of smaller components built around the world, without their producers acknowledging about each other, or even care about each other. Milton Friedman's example of a pencil's production is often mentioned for supporting this idea. So, at least at an unconscious level, worldwide social cooperation is already in place for the sake of overall welfare; though serving individual purposes. Perhaps it is time to enhance trust a step further and bring worldwide cooperation to the forefront of our worries and awareness.

Statistical and economic results call for action. Statistical results show that the higher the employment levels of an economy the higher is its GDP per capita, and the higher the economy's productivity as well. The literature highlights the missing tuning between economic recovery and labor market recovery (Stănilă, Andreica & Cristescu, 2013), which is a conclusion reached out under our current economic template. Nonetheless, Ponikvar & Kežjar (2014, p. 1642) pose that "*if economic welfare is the overall objective of societies, both employment and factor productivity enter this objective function as key elements, positively affecting the welfare function*." Once we have established a positive relationship between the two variables, which is statistically significant and being both variables important to our welfare, we must do whatever it takes to develop both. And we can start from a full-employment reality if we want to.

Economic results show that market constraints can be removed by enacting full employment. Economic analysis also shows that overall market equilibrium is possible by withdrawing arbitrary control of any particular individual over both aggregate demand and aggregate supply and letting economic agents to freely perform their exchanges. Milton Friedman underlines this idea by posing that "*monopoly means the absence of alternatives and thus is incompatible with strictly voluntary change*" (Ebenstein, 2012, p. 19). Therefore, competing for monopolistic positions threatens individual freedom, unbalances the markets, and cannot foster overall welfare. However, mostly, we still live in a competitive world instead of a cooperative one.

Furthermore, analytically, it is shown that enacting a full employment reality induces positive opportunistic behavior at the micro-level. Employees and entrepreneurs are pushed to a decision-making process focusing their best productive capabilities, rather than simply aiming at being able to expropriate output from others – as existing employers might do regarding their employees; and employees might try to accomplish regarding the total output of their current employers (see Appendix). Hence, enacting full employment is crucial for enhancing economic development.

Combining each theory main drivers allows an understanding of economic development's main pillars. Each economic theory developed to date sets its welfare main drivers. From Classical theory, we grasp that market dimension and perfect competition among firms lead the economy into a full employment reality. From Keynesian theory, we understand that only continuous investment activities foster full employment and maintain the economy's production levels. From Schumpeterian theory, we realize that human creativity is the spring of economic development upon which, as put by March (1991), "new opportunities" can be explored and "old certainties" are exploited. Perfect competition and continuous investment activities, coupled with human creativity, surely result in social cooperation – because of inducing specialization. Moreover, labor becomes the relevant source of production since there are no investment activities without a man developing a productive unit and laboring on it, even by simply controlling a machine. Hence, the economic development main pillars are solely labor, human creativity, and social cooperation, upon which the efficient allocation of resources may take place.

The efficient allocation of resources demands equality between production and consumption, which helps to identify the fundamental constituents of the economic system. The interaction between labor, human creativity, and social cooperation requires some form of regulation to be effective. Moreover, money performs a crucial role making it easier to perform economic exchanges and adding value to the society by the exchange of surpluses; i.e., by the *C-M-C* process (Marx, 1867). Money is also paramount for providing investors with the purchasing power they need for deploying new productive units (Schumpeter, 1934). Therefore, the fundamental constituent parts of the economic system are the regulatory framework and the multitude of funding sources to have the economy moving forward towards increasing overall welfare.

A competitive environment exists because society allows that monopolistic practices turning into unbalanced privileges. Accordingly, market constraints emerge as a natural consequence of individuals trying to arbitrarily control market functioning; i.e. individuals are manipulating either, markets' supply or markets' demand, willing to fulfill their private interests. For instance, the literature outlines that the monopolist only deploys a new invention after having fully exploited the market by selling out the outcomes of prior investments, whereas in a truly competitive environment new investments will emerge whenever possible, by the hand of any entrepreneur who is able to figure out a clever solution for a given market's need (Backhouse, 2014). Therefore, a perfectly competitive environment speeds up economic development. But the problems arise from the demand side as well and extend into both the labor market and the money market. Our societal template fosters both negative opportunistic behavior and positive opportunistic behavior. We are living in a profit maximization environment which, in the end, does not translate economic agents' behavior into a cooperative tone.

Our current economic reality translates into a situation where trust is often jeopardized. Trust in politicians, trust in institutions, and trust in other human beings, all kinds of trust upon which economic transactions depend upon are put at stake because there is a general understanding that negative opportunistic behavior can be rewarded. Under a profit maximization reality, the perpetuity of the economic relationships is defined by individuals' self-interest which, in turn, determines which entities are to be cared of, and which are the ones to be betrayed. Thus, currently, trust is far from reaching the highest possible standards, transaction costs are increased, and economic efficiency is compromised.

The current socio-economic template exacerbates individuals' emotions of fear and greed. Economic agents inspect the environment looking for opportunities; yet detect threats. Therefore, coupling greed with survival needs, every economic agent fights for an opportunity and does not care much if his actions are grounded on a positive opportunistic behavior or a negative one. Currently, the world is not as organized as the best possible way of achieving efficiency.

Our current economic template has meager homeostasis because emotions are left loose, our rationality gets blurred, and crises alternate with booms, without control. As Keynes (1936) advocates, individual propensity to consume diminishes once income gets higher, mainly because, in this instance, a precautionary motive drives economic agents' behavior. Hence, either satiety or the fear of an uncertain future will cause unbalances between production and consumption. Either way, the unbalance triggers individual fears among both producers and consumers, leading each one of them to protect themselves the best they can. The literature shows that both the Great Depression and the Great Recession were further fueled by fear, which translated into huge unemployment rate increases, for those who have the power firstly decide to protect themselves individually.

Although fear is a crisis's main cause, greed is a boom's main booster. The desire for improving an individual's well-being motivates entrepreneurs to engage in new endeavors, fully aware that, if succeeding, financial independence will be reached allowing for a huge enjoyment of life by unlimited consumption. The society does not hold a mechanism preventing greed or fear from running loose, without control.

Accordingly, the economic balance is often at stake, endangering overall welfare.

However, the economic template proposed by enacting full employment provides a wider control of the reason over emotions. Fear will get under control by enacting full employment. Fear of being fired, fear of being unable to get a job, and fear of facing an entrepreneurship endeavor failure, they all will rest under control because being unable to survive will no longer is a threat for any human being. By the same token, householders' over-savings due to a precautionary motive does not make much sense anymore since every person trusts that will always be able to find a way of surviving. Hence, our reason will be controlling our economic fears.

Greed will get under control as well if governments set the markets free. If employees can freely negotiate employment terms with their employers then, when being proposed too low wages, employees will quit the firm for finding another job where they can get a higher payment for their labor. If an employee is crucial for business success, then the employer will have to pay a higher wage for ensuring the permanence of the employee. This process will rest balanced when the employee is earning a wage according to her contribution to the firm's profit, harmonized with the perception of the parties – employer and employee. Therefore, entrepreneurs' greed gets under control because it does not reward to pay low wages to good employees. Also, by this line of reasoning, to employees, it does not reward quitting the current job for finding a new one because other employers are likely paying similar wages. The final consequence is that employees' greed gets under control too.

A full employment reality fosters other positive consequences at an individual level. First, it will release the possibility for each person to engage in a professional occupation which the person is feeling most talented for. Likely, the professional occupation each individual likes the most is where the person reaches his best performances, thus increasing self-esteem. Second, working hours likely can be reduced as time goes by, leaving additional free time for each individual to dedicate to his favorite hobbies. Leisure has value for individual happiness, and it is widely recognized the positive effects on individuals' health when people can properly balancing professional and personal life. Thus, under a full employment reality, individuals will be given the possibility of looking for the job that best suits their personality. Antonova (2014, p. 74) poses that "*economic identity is a psychological phenomenon, reflecting the psychological attitudes of the individual to himself as a subject of economic activity*" and "*accordingly, the components of economic self-awareness can be presented as a separate part of the psychological attitude (cognitive, emotional and behavioral) of the individual to himself as a subject of economic relations*." She remarkably notes that professional self-determination is closely connected with each individual's life plans.

The heterogeneity of people's values, such as freedom, self-confidence, autonomy, independence of judgment, self-development, and many others, all may impact differently each person's professional choices. Therefore, by allowing the making of personal choices, a full-employment reality will likely enhance overall individual happiness.

Also, collectively, the economic model of full employment has many advantages. First, it increases productivity through two different paths: by ensuring the biggest possible market for producers to satisfy (i.e. it ensures the biggest possible aggregate demand at all times); and it fosters trust among economic agents thus reducing transaction costs. Second, it stimulates economic agents' positive communication in the sense that governments will be getting suggestions from the whole society aiming at overall benefits, instead of being pushed to favor specific fractions of the population at the expense of the majority; i.e., lobbying will no longer be rewarded. Though this idea of a lobbying-free economy is still a speculation, lobbying will indeed carry little reward for firms under a full-employment economy with properly balanced markets. In this instance, if governments favor a given economic sector, then they will induce new entrants in that specific sector, thus nullifying firms' interest in doing so. These are very important outcomes because, more than ever, it reinforces people's trust in institutions while ensuring that governmental adjustments will happen for safeguarding overall welfare.

Additionally, since productivity increases, overall welfare will be further improved. Firms will be more competitive than ever, being able to produce more at a lower cost. Hence, firms will be able to supersede competition, which adds a change in global trading dynamics. It is worth noting that if a country enacts full employment also gets an important competitive advantage compared with other countries worldwide. Generally speaking, this country will be able to produce more at lower prices, and, consequently, will also be able to export more. This country's currency will tend to appreciate comparing to the currency of its importing countries. Once again, those countries who can reach higher levels of cooperation among their society are also the ones who can thrive. By enacting full employment in a country, the government does not leave anyone behind, and it is a decision that will increase overall well-being, of both rich people and poor people.

In socio-economic terms, we will be moving away from a profit maximization society for embracing a wage maximization society. Note that if full employment is enacted while simultaneously setting the market free, enabling employers and employees to define the terms of their agreements, wages will tend to go up steadily. Each employer will be prone to offer higher wages at the best professionals of each field to capture them to her organization. This process will go on until the entrepreneur is no longer willing to sacrifice her wage.

Nowadays, each entrepreneur is maximizing her firm's profit, which is the same as maximizing her wage; but she does not need to care about how much are their employees earning comparing to those working for the competitors, just as long as they remain laboring for her. Moreover, if an employee is not happy with his current wage the entrepreneur does not bother much when having to change him with another one easily available, just as long as the salary is kept small, and the work is kept done.

Hence, the profit maximization economy we are living in can be viewed as an entrepreneurs wage maximization reality. That is one of the reasons why economic inequality has had room to grow and is one serious problem of our current economic template (Stiglitz, 2013). In this regard, Milton Friedman poses that "*money economy fosters inequality in the distribution of income, and where inequality is marked no one contends that what pays best is what the community needs most*" (Ebenstein, 2012, p. 127). By enacting full employment and giving freedom for the markets to set their motions, governments will be setting up an economic environment of wage maximization, thus fostering overall economic equality.

As mentioned before in Part I, there are, at least, four different asset dimensions for welfare production: (1) material; (2) scientific; (3) human; and (4) social. They all will be enhanced under a full employment reality. Moreover, by the same token, any two countries' partnership calling for free movement of goods, persons, and capital, while fixing the exchange rate between their currencies, will boost their common economic development. Their entire society will be better off. Perhaps the European Union is the world's region where enacting full employment will be easily implemented, enabling widespread progress regarding the four dimensions of welfare production. Instead of wars, induced by fear and greed, we may dialogue, based on clear reasoning. An economic template based on full employment fosters overall cooperation, increasing overall well-being.

Theoretically, enacting full employment as the first step for deploying a successful economic policy is perfectly possible, but poses a few practical issues.

First, it is not clear how cultural differences impact the acceptance of the theory. Specifically, the literature identifies several different cultural clusters that have idiosyncratic institutional contexts (Hofstede, 1984, 1993; Javidan et al., 2006), and likely will exhibit disparate reactions to the possibility of enacting a full-employment economy.

Second, governments facing disparate legitimacy issues for enacting full employment will likely be the norm, since governments usually do not have full support from the community. Suchman (1995, p.603) poses that "*technical and institutional constraints offer criteria, not impediments, for organizational legitimacy*." Hence, each government may have to find its criteria for framing environmental types and hypothesizing legitimation dynamics, upon which being able to choose how to move forward.

Third, institutional and market forces set up a given welfare path (Dacin, 1997; Murtha & Lenway, 1994). Countries differ in their institutional context and also differ in the way they resort to the market mechanism. A strong institutional context is usually the outcome of increasingly complex economic transactions developed in the economy. Peng (2003, p. 278) presented a two-phase model of institutional transitions resting on the assumption that "*as time goes by, the economy is likely to feature more complex transactions involving more transaction parties*." These institutional phases may be crucial for a comprehensive institutional context understanding. Accordingly, governments' ability to enacting full employment in an economy may vary considerably worldwide.

Fourth, it is not clear how power relationships among economic agents will take place when facing the idea of their government enacting full employment. Indeed, as mentioned in Part IV, fear of losing predominance may dominate those who are relying on profit maximization for surviving. Despite the whole society will be better off under an economic model of full-employment, it is not clear that those who control the means of production will realize the benefits they will be getting under such a reality. Most likely, instead of understanding the future benefits, they will be focusing on their immediate loss of individual profits, and that will probably lead them to rest opposing the enactment of full employment.

Enacting full employment allows the economy to accumulate productivity gains. Krugman (1979, p. 478) shows that an economic region induces immigration when it offers both a greater real wage and a greater variety of goods; and outlines the importance of taking the lead by posing that "*in the presence of increasing returns history matters*." With time, given the opportunity cost when full employment is not enacted in the economy, just as easily as the shepherds' societies conquered the hunters' societies, so the full employment societies will lead the world.

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This work evidences that enacting a full-employment economy must be the government's first step towards pursuing a sustained economic development policy. Notwithstanding the historical theoretical tendency towards setting up full employment as the winning post of a successful economic policy, I hypothesize that the drawing of an adequate institutional context may start in a full-employment reality. Historical analysis of both theoretical explanations and empirical data leads to conclude that employment can indeed be the first cornerstone of a thriving economy.

Throughout this work, a few conclusions emerged.

First, it is impossible to create value just by creating money. The literature has shown that money creation alone leads to inflation only, thus acting as a value destroyer in this instance (Hayek, 1976). However, money creates value when it is used to help to perform economic transactions; i.e., when it helps to exchange the surpluses between producers (Marx, 1867). Money also creates value when it is used for empowering entrepreneurs to engage in new endeavors fostering production increases at lower prices (Schumpeter, 1934). Money becomes a crucial element of the market economy since the market is the space where economic transactions occur, but value creation lies in the production of goods and services for satisfying consumers' needs.

Second, the renewal of positive emotions adds value to an economy. Damásio (1999) shows that emotions are the drivers of our behavior before even being the drivers of our thoughts. Despite the resistance of the behaviorist literature to introduce emotions, moods, and feelings into the scientific analysis (Wagner & Ilies, 2008) there are many studies evidencing how positive affective states influence employee satisfaction and performance (Judge, Thoresen, Bono & Patton, 2001; Wagner & Ilies, 2008; Lo, 2011; Antonova, 2014). Furthermore, Greenwood & Hinings (1996, p. 1024) demand "*attention to the interaction of choice and context*" for "*understanding how contextual pressures are interpreted and acted upon by organizational actors*." Hence, the role of positive moods and feelings is important for increasing productivity, gaining competitiveness, and, most of all, inducing people engaging in positive opportunistic behavior.

Third, welfare is a concept that goes far beyond a material dimension. By defining welfare as the physical and emotional general state of all members of society, economists can no longer afford to lose the perspective on how the emotional general state of the population affects people's decision-making processes. Accordingly, governments become a crucial element of a successful economy by setting up the most favorable institutional context enabling a sustained economy for overall welfare production.

Fourth, legal frameworks become paramount for fostering positive opportunistic behavior of governors, inventors, investors, and laborers. La Porta et al. (1998) outline the differences upon the main legal frameworks in advanced economies. These sorts of differences affect economic transactions by setting up disparate institutional contexts. Therefore, enacting full employment may require distinct treatments worldwide according to the legal framework faced by governments.

Fifth, the proper institutional framework for fostering economic development must mix "new opportunities" exploration with "old certainties" exploitation (March, 1991). This requires providing an environment of trust among society (Guiso, Sapienza & Zingales, 2006; Khan et al., 2010), removing fear, and controlling greed (Lo, 2011). Murtha & Lenway (1994) pose that governments must induce instead of command. If governments can induce economic agents' positive opportunistic behavior, providing the highest possible degree of freedom for every decision-making process to take place, then the role of power and individual interest efficiently combine for improving the society's welfare.

Sixth, the proper financial system is market-oriented, enables bank failures, does not withdraws money from the economy, and always safeguards the householder's savings. Most of all, the proper financial system does not arbitrarily manipulate any economic variable and simply ensures that "empty" money is kept small. By definition, a market is a space where a buyer and a seller gather together willing to perform an exchange of goods and services. Therefore, if the financial system prevents economic agents from freely engage in exchanges of their goods and services, then the financial system is fostering neither overall welfare nor the market economy. The financial system herein proposed is adequate for performing the function it has when contributing to sustained economic development.

Seventh, general welfare always depends on overall market equilibrium regarding the labor market, the money market, and the market of goods and services. If one of these markets is not in equilibrium then all other markets are unbalanced as well. Market unbalances mean a significant welfare loss. Since the labor market equilibrium is only possible under a full employment reality, society only will be maximizing welfare when full employment is enacted in the economy.

Eighth, the only reason why society does not support a full employment reality is that we are afraid of doing so. Lo (2011, p. 628) outlines that "*fear of the unknown (…) is the most powerful motivating forces of our conscious and subconscious minds;*" and we have never lived under a full-employment guarantee. Herein I show that enacting full employment is possible and desirable. Possible, because we just need to want to do it to reach it. Desirable, for it empowers the economy with the most powerful aggregate demand which pulls aggregate supply through. Furthermore, enacting full employment enables the highest homeostasis of the economy, though we need to overcome our fear of doing so.

All in all, governments are paramount for fostering economic improvements. The herein theory proposes an economic framework where the commanding chain is scattered all around the community. Governments, banks, firms and householders, all are important elements in setting up the pace of economic development. Milton Friedman distinguishes between the military economies from the market-based economies by the fact that the military organization is a top-down approach. He argues that "*the general tells the colonel, the colonel tells the captain, and so on down, whereas a market is a bottom up organization*" where "*the customer goes into the store and tells the retailer what he wants, the retailer send it back up the line to the manufacturer and so on*" (Ebenstein, 2012, p. 249). Following a similar reasoning, this work proposes an extended dialogue between economic agents where the employee tells his employer what he wants; the employer tells the employee what he needs; the entrepreneur proposes a partnership to the bank; the government proposes a partnership to the bank as well; banks seek partnerships without being requested to; householders tell the retailer what they need and tell the government what they expect; while governments listen to the community and set them free to make their choices. A full employment reality magnifies the government's action.

Generally, I conclude that mankind has evolved by being able to increase social cooperation, and by setting up institutional rules which coordinate both individual behavior and collective behavior. Trust emerges as a crucial emotional element for fostering economic development (Khan et al., 2010), while fear and greed rise as two economic development main threats (Lo, 2011). Time along, the societies have been able to reduce wars and conflicts; yet have not been able to find peace.

Specifically, full employment can be enacted in the economy as the first move towards the efficient allocation of resources. Beginning by ensuring full employment allows governments to start drawing an institutional context which balances the labor market and ensures the highest possible aggregate demand available for entrepreneurship to develop from. The remaining markets may be balanced afterward by building a proper institutional environment. The market economy can only reach its maximum potential under a full employment reality.

The herein proposal extolls both market economy and social welfare.

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At the beginning of this journey, I promised you I would be following the guidance of positive economics, instead of following the steps of normative economics. I rested the entire reasoning developed so far based on the facts provided by theoretical and empirical research. Although I have been faithful to the promise I made, I am now stepping away from positive economics to leave in these pages the way I feel about these socioeconomic matters.

Sustainability is seen by Keynes and Schumpeter in a complementary way. Keynes supports the idea that aggregate demand grounds a solid market upon which the private initiative evolves. Thus, to Keynes, the efficient use of capital is confined by the employment boundaries. And I believe he is right. Schumpeter, in turn, endures a view in which the spring of economic transformation is the use of capital, leading the economy into a new way of doing things, producing more at lower prices, regardless of the level of employment because, according to the author, employment simply follows firms' needs. And I believe he is right as well. The complementarity between the theories stems from the fact that aggregate demand and aggregate supply need to match each other for economic development to occur. Yet, it can only reach its apex under a full employment reality. Hence, sustained economic development requires a full employment reality where producers and consumers may express themselves economically at their highest potential.

Sustained economic development goes far beyond the notion of GDP increases. Based on The World Commission on Environment and Development (WCED) guidelines, Nadim, Marom & Lussier (2016) pose that sustainability may be viewed as the ability to meet the needs of the present generation while safeguarding the needs of future generations. The authors identify three important axes to work from: "*economic development, social development, and environmental protection*" which are considered to be "*founded on respect for nature, universal human rights, economic justice, and a culture of peace*" (Nadim et al., p. 212). Hence, sustained economic development is a process by which the society interacts to deliver to the whole of its members the resulting outcome of wider use of all available resources. Society needs to ensure the continuous renewal of the process across time. A sustained economic development requires building an institutional context which fosters positive opportunistic behavior.

Sustained economic development is not possible without a culture of positive values, such as respect, trust, and commitment. Moreover, those values ought to be coupled with the individual's self-achievement to deliver happiness on a continuous base. It seems to me that this feeling must overcome the materialistic threshold to represent a true mental shift throughout the entire society.

Michael Diekmann, a former president of Allianz Group, once posed that a great professional must always be a great human being as well. Although he defined neither 'great professional' nor 'great human being,' I believe it is possible to contextualize 'great human being' as being one person that rejects negative opportunistic behavior (defined as someone that always rejects acting in his own interest when knowing that if everybody else would act the same way, the all-world would live worse off for sure), and to contextualize 'great professional' as someone who seeks positive opportunistic behavior (i.e. someone who strives for improving self-productive capabilities in order to produce the products and services that will satisfy both his own physical and emotional needs and other human being needs as well). Hence, I am calling for politicians, economists, entrepreneurs, and bankers to be great human beings before being great professionals.

Economists usual look at the long term concept as being the sum of several short term effects. If it was so, then it would be sufficient to focus on short term strategies to maximize overall welfare, regardless of the time horizon of our choice. To me, long term and short term concepts coexist. The long term economic success of an economy is defined by its institutional context. It is defined by the way the formal and informal constraints set by the environment induce people to behave in a given direction. Accordingly, short term economic success is determined by the circumstantial sum of the diverse resource allocation efficiencies within the boundaries set by the long term horizon. Moreover, people act in the short term according to their long term goals. This is a very important statement because it means that our present welfare is dependent upon how our long term boundaries are defined under a given institutional context.

We live under a short-sighted economic regime in which profit is the main driver of economic agents' behavior. Accordingly, a short-term decision-making process takes the lead, severely narrowing down our long term economic development perspectives. As shown by Classical theory, profit is a healthy indicator of the extension of the social needs to be fulfilled. If a given economic sector is highly profitable it must be because it is highly valorized by society. Then, according to Classical theory, new competitors will install in the market, those specific economic sectors will develop further, and individual profit will decrease. Hence, a well-developed economy exhibits an overall profit level near zero. It seems to me that this can only be done through the proper action of the governments building a safe long-term perspective, grounded on the proper institutional environment. Palazuelos & Fernández (2008, p. 14) highlight this idea by posing that a "*strong dynamism in domestic demand (…) is evidently related to research efforts, educational training, and investment in new technologies; but also to increased consumer demand through wage growth, to the incentive given to productive investment; and to the recovery by governments of economic and social commitments*."

Still focusing on the temporal horizon inherent to the decision-making process we have to consider the emotional space. It is understandable the role of fear and greed impacting our short-term human decisions. It is also clear that widening our temporal horizon, regarding the way the decision-making process takes place in our minds, requires increasing amounts of trust in both the stability of our surroundings and their effectiveness protecting our survival. Otherwise, we will resort to the simple fulfilling of our immediate needs, losing any kind of focus in long-term investment opportunities. The scope for positive opportunistic behavior has emotional constraints. Therefore, emotional circumstances also dictate the boundaries of our behavior.

Circumstances stem from two different origins, which are both natural and artificial. Circumstances originated from natural causes are those related to the total quantity of available resources, such as the climate, and every sort of thing that goes beyond mankind's control. Artificial circumstances are those directly related to human choices and dependent upon the way the processes of human interactions are organized. While the former conditions our short term horizon decision-making process, the latter always set up our long term perspective. Hence, countries vary in their development levels according to the circumstances they have been put through across their history, which set up physical and emotional standards across time. I believe this is also true for the history of each one of us individually.

Stepping away from existing standards and safeguards to engage in a new endeavor is never an easy task; yet is always possible. We will never be able to fully understand the conclusions of a theory or the guidelines of a belief unless we are fully aware of the assumptions setting up their foundations. Despite our ingrained theories or beliefs, a change is triggered once we start identifying a positive reason to put those theories and believes under examination. Uncertainty is always the first hurdle but must be overcome with excitement, focusing on the positive goal we are looking for.

I refuse to accept the idea that war among men is unavoidable. History shows that mankind has got older by learning to increase social cooperation. If civilization means the ability to control our emotions; the ability to make consensual decisions for overall welfare; and the ability to engage in respectful actions towards those around us and towards the environment; then history also screams out loud that we are living in a world that is still far, far, far away from civilization!

Moreover, I refuse to accept the idea that the suffering of some part of the population is bearable so the other fraction of the population may thrive. The thirty-three miners proved the world that we must divide our sufferings and our successes. And they were followed accordingly. In 2018, the all-world enjoyed together with the successful rescue of the thirteen members of a soccer team trapped in a cave in Thailand.

We can create a world where people assert themselves for what they are, instead of doing it for what they have. This emotional reward that living hood provides each human being, and which translates into a general feeling of self-achievement, goes far behind the existent standards of hoarding wealth, for it means that every man and woman can give a contribution to the global community; which is special and unique.

José Saramago (awarded with the Nobel Prize in Literature in 1998) used to say that mankind is engaged in a process of humanization. There is no doubt that what we have is important for ensuring our survival, but we only assert ourselves by what we do. Saramago´s subtlety of outstanding that mankind is not yet as human as it can be, highlights the path of positive evolution where we are. This is so true in economic terms.

So, great human beings are requested, but great professionals must enlist our governments too. I believe a great long term is expecting the world. Although enacting a full-employment economy will be a matter affecting every country’s productivity and competitiveness, it is also a matter of ensuring proper living conditions for everyone. Before fighting for resources, people fight for survival. But when survival is secure, human beings fight for happiness. And that requires a healthy mixture of commitment and competence.

The challenge is setting up opportunism always following a positive path.

We are made wise not by the recollection of our past, but by the responsibility for our future.

George Bernard Shaw

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A – Analysis of the impact of interest rate policies on employment

Theoretically, it is easily shown that financial entities are induced to practicing disturbing interest rate policies (see Part III). That is, instead of practicing higher interest rates when the economy is at, or near, full employment, banks tend to apply lower interest rates in this circumstance. By the same token, theoretically, banks tend to follow higher interest rates policies when unemployment is growing in the economy, contrarily to what the economy needs in such instance. The absolute consequence of these banks' behavior is the inefficient misplacement of investments; thus inhibiting economic development. Therefore, it is important to empirically verify the theory to conclude about the effectiveness of our current financial system.

The efficient institutional framework is one where the financial system is channeling new investments according to society's needs. Therefore, when the economy is in a full-employment reality, and GDP is growing, adequate banks' interest rate policies should be pursuing a higher interest rate policy to enable only the additional investments that evidence the highest yields; because the possibility of new investments turning into a failure is higher under this environment. Conversely, when unemployment is looming, and the economy's GDP is decreasing, new investments are needed for using the available human and physical resources currently unproductive. Hence, a lower interest rate environment will induce the economy's recovery. The theoretical consequence is that the proper financial system is one which settles a positive relationship between the interest rate and GDP per capita growth, and a negative relationship between the interest rate and unemployment.

To investigate the evolution of the interest rates in the United States economy, I perform an analysis of a dataset collected from the Board of Governors of the Federal Reserve System (US) (available at https://fred.Stlouisfed .org). I use the 10-Year Treasury Constant Maturity Rate, from 1962 to 2017 (not seasonally adjusted and using the interest rate data reported in the last day of each year), as a proxy for the evolution of private banks' interest rate policies in their investment credit operations. This figure represents the yield required by investors to loan funds to the government. Therefore, it reflects investors' expectations regarding the future for both inflation and the yield of alternative investments. I am assuming banks pursue profitable investments. Thus, it is expectable that banks will be prone to prefer investing in 10-Year Treasury bonds rather than investing the same amount of money in an investment credit line to private firms, providing the former offers a higher expected return than the latter, after risk considerations. GDP per capita and unemployment figures were collected from the World Bank, WDI (at data.worldbank.org).

Table A1 displays the description of the variables, while Table A2 displays the descriptive statistics for this dataset.

The 10-Year Treasury note pays a fixed interest rate every six-month and pays the face value at maturity. Its yield is thus an expression of the minimum yield investors require to engage in an investment endeavor for a ten-year horizon.

Table A1 – Description of the variables

Variable	Description	Source
Unemployment	Number of unemployed persons in the percentage of the total labor force	World Bank, WDI (last updated 01/30/2019)
GDP per capita growth	Gross Domestic Product divided by the population of a country (current US$), [(GDPpc Year $_n$ / GDPpc Year $_{n-1}$) -1] x100	World Bank, WDI (last updated 01/30/2019)
10_Year_Interest_Rate	10-Year Treasury Constant Maturity Rate, Percent, Daily, Not Seasonally Adjusted, last day of each year	Board of Governors of the Federal Reserve System (US)

Table A2 – Descriptive statistics

Variable	Mean	Standard Deviation
Unemployment	6.039989	1.5859813
GDP per capita growth	5.476976	2.8529041
10_Year_Interest_Rate	6.134286	2.8042499

Figure A1 displays the line chart for the entire dataset.

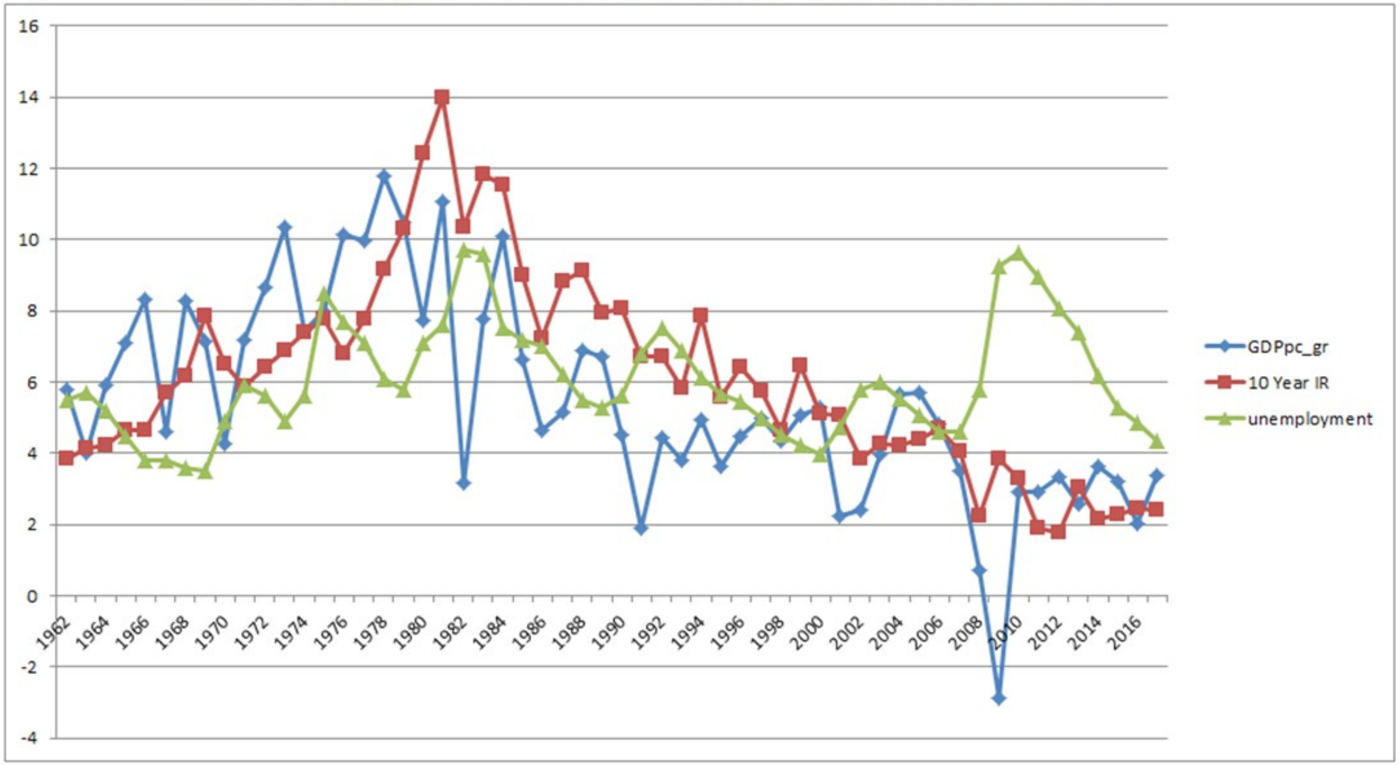
Table A3 displays the correlations matrix. Results evidence a positive relationship between *GDP per capita growth* and the *10_Year_Interest_Rate*, with a statistically significant correlation of 0.635 (significant at the 0.01 level, 2-tailed), suggesting that, usually, the US financial market happens to act according to economic needs in what concerns ensuring GDP per capita growth. Nonetheless, there are moments when, cumulatively, GDP per capita significantly decreases, unemployment significantly increases, and the 10-Year Treasury note yield increases as well, contrarily to what were the needs of the economy, and according to the theoretical expectation. This occurrence particularly outstands in the peak of the Great Recession, in the 2008-2009 period. Moreover, results show that, in the United States, unemployment is not statistically correlated with the 10-Year Treasury yield, which may hint a lack of capacity of the existing financial system to improve employment levels in the economy.

Table A3 – Correlations matrix

Variables	**1**	**2**
Unemployment	1	
GDP per capita growth	-.096	1
10_Year_Interest_Rate	.243	.635**

** p<0.01, * p<0.05

Figure A1 – *GDP per capita growth, 10 Year Treasury note, unemployment (US)*



Source: World Bank, WDI (at data.worldbank.org)

B – Analysis of the impact of employment in the economy

To investigate the impact of employment in the economy, I perform an analysis of a dataset collected from both the World Bank (data.worldbank.org) and Our World in Data (OurWorldinData.org).

The initial dataset comprehended the records of each world country regarding unemployment, GDP per capita, number of domestic listed companies, and annual average working hours per person engaged. These variables were chosen because, theoretically, I am hypothesizing that: (1) lower unemployment rates will lead to higher productivity in the economy; (2) lower unemployment rates will lead the economy into higher GDP per capita; and (3) lower unemployment rates will lead the economy into a lower number of domestic listed companies. Productivity is computed as the ratio between GDP per capita and the annual average working hours per person engaged. Table B1 summarizes the hypotheses and the models to be tested using regression analysis.

Table B1 – *Hypotheses, models, and expected relationships*

Hypothesis	**Model** $y = b_0 + b_1 x + \varepsilon$	**Expected relationship**
Lower unemployment rates will lead to higher productivity in the economy	y, productivity x, unemployment	$b_1 < 0$
Lower unemployment rates will lead the economy into higher GDP per capita	y, GDP per capita x, unemployment	$b_1 < 0$
Lower unemployment rates will lead the economy into a lower number of domestic listed companies	y, listed firms x, unemployment	$b_1 > 0$

Initially, the data was collected for the period between 1950 and 2017. Due to the inexistence of data for so many countries for several periods, I have removed all the records which were registering blank spaces. Moreover, to ensure the direction of causality, and following prior literature (e.g., Chen, Li & Shapiro, 2012), I have used one year lagged values between each of the dependent variables and the predictor, unemployment. Thus, in each record, the unemployment rate registered in the year *n-1* was listed in the year *n* along with the data of the dependent variable for the year *n*. Table B2 evidences the number of observations by country and model.

The specific sources and descriptions of the variables are exhibited by Table B3, while Table B4 displays the descriptive statistics.

Since I have started from the assumption that reducing unemployment causes economic development, and I have lagged one year the values of unemployment, it is interesting to take a look at the correlations table and realize which correlations are indeed statistically significant. Furthermore, the correlations have the expected direction for both GDP per capita and productivity. Surprisingly, yet consistent with the theory of full employment, the number of domestic listed firms also exhibits a negative correlation with unemployment, suggesting that the number of listed firms will increase along with unemployment decreases. Table B5 displays the correlations between the variables when considering unemployment values lagged one year; i.e. assuming the direction of causality between unemployment reduction and both GDP per capita and productivity. Table B6 evidences the linear regression results by model. Table B7 summarizes the conclusions over the drawn hypotheses.

Table B2 – Number of observations by country and model

Country	**Model 1**	**Model 2**	**Model 3**	**Country**	**Model 1**	**Model 2**	**Model 3**
Argentina	39	37	33	Luxembourg	30	30	30
Australia	34	34	34	Malaysia	27	27	27
Austria	15	15	10	Malta	19	19	19
Bangladesh	4	4	4	Mexico	22	22	22
Barbados	24	24	12	Netherlands	26	26	26
Belgium	14	14	11	New Zealand	27	27	27
Brazil	25	25	22	Norway	41	41	33
Bulgaria	10	10	8	Pakistan	40	40	19
Canada	36	36	31	Peru	22	22	3
Chile	13	13	5	Philippines	40	40	25
Colombia	25	25	18	Poland	19	19	19
Cyprus	26	26	11	Portugal	27	27	25
Czech Republic	4	4	4	Romania	17	17	17
Denmark	14	14	9	Russia	21	21	19
Ecuador	18	18	5	Singapore	39	39	31
Estonia	8	8	0	Slovakia	17	17	16
Finland	40	40	17	Slovenia	20	20	20
France	41	41	39	South Africa	12	12	12
Germany	11	11	11	South Korea	44	44	35
Greece	28	28	28	Spain	7	7	4
Hong Kong	38	38	33	Sri Lanka	23	23	21
Hungary	12	12	12	Sweden	36	36	19
Iceland	22	22	11	Switzerland	14	14	18
Indonesia	24	24	22	Thailand	42	42	34
Ireland	30	30	19	Turkey	28	28	25
Israel	29	29	29	Un. Kingdom	16	16	13
Italy	29	29	26	United States	53	53	34
Jamaica	24	24	13	Uruguay	21	21	1
Japan	53	53	39	Venezuela	28	28	16
Latvia	15	15	4	Vietnam	12	12	4
Lithuania	19	19	5				

Model 1: N= 1,514; Model 2: N=1,512; Model 3: N=1,139

Table B3 – Description of the variables

Variable	**Description**	**Source**
Unemployment	Number of unemployed persons in	World Bank, WDI (last updated 01/30/2019)

	percentage of total labor force	
Productivity	Ratio between GDP per capita and annual average working hours per person engaged	Author's calculation using data collected from World Bank (for GDP per capita)
Working Hours	Annual average working hours per person engaged	Online site OurWorldinData.org for average working hours per person engaged
GDP per capita	Gross Domestic Product divided by the population of a country (current US$)	World Bank, WDI (last updated 01/30/2019)
Listed firms	Number of domestic listed firms in a country (thousand)	World Bank, WDI (last updated 01/30/2019)

Table B4 – Descriptive statistics

Variable	Mean	Standard Deviation
Unemployment	6.9633	4.57774
Productivity	9.25896	11.398107
Working Hours	1,938.624	269.54559
GDP per capita	16,263.2020	18,090.53857
Listed firms	635.62	1,149.525

Table B5 – *Correlations matrix*

Variables	1	2	3	4
Unemployment	1			
Productivity	-.087**	1		
Working Hours	-.156**	-.549**	1	
GDP per capita	-.088**	.987**	-.495**	1
Listed firms	-.059*	.152**	.014	.189**

** p<0.01, * p<0.05

Table B6 – *Coefficients, p value, Adjusted* R^2

Dependent variables	Model 1	Model 2	Model 3
Productivity	-.207; .000; .220		
GDP per capita		-.218; .000; .247	
Listed firms			-.051; .105; -.006

Predictor: unemployment

Table B7 – *Hypotheses, models, expected and confirmed relationships*

Hypothesis	**Model** $\mathbf{y = b_0 + b_1 x + \varepsilon}$	**Expected relationship**	**Confirmed relationship**
Lower unemployment rates will lead to higher productivity in the economy	y, productivity x, unemployment	$b_1 < 0$	$b_1 < 0$
Lower unemployment rates will lead the economy into higher GDP per capita	y, GDP per capita x, unemployment	$b_1 < 0$	$b_1 < 0$
Lower unemployment rates will lead the economy into a lower number of domestic listed companies	y, listed firms x, unemployment	$b_1 > 0$	$b_1 < 0$

C – **Analysis of the propensity entrepreneur-employee**

One caveat opposing the theory of full employment is likely posed by a sense of threat coming from the fear of losing productivity in the economy for raising an institutional playground which may induce people to rest, instead of working. Indeed, by ensuring employment to every human being, it is possible to theorize that individuals maximize their utility between consumption and leisure time, and, accordingly, they choose to work less once their basic necessaries and conveniences are being fulfilled. Therefore, when enacting a full-employment economy, people may think that the world might face a danger of seeing every man seeking to be an employee instead of working hard as an entrepreneur.

Analytically, it is possible to use a very simple model to check out the extension of the propensity of an individual to engage in a given activity, either by being an entrepreneur or by actively seeking to be an employee. I follow Besley & Ghatak's (2010) framework.

We begin by considering a single producer in the economy, in which there is no form of exchange. The authors mention that we may consider the example of a "*farmer who is endowed with a quantity of land*" (Besley & Ghatak, 2010, p. 4529). The authors use this model to analyze the role of property rights in limiting expropriation. I will extend the analysis to verify the role of the employer taking a parcel of the total output generated by the employee's work efforts.

We begin with a very simple model where the farmer commits effort (time), where effort $e \in [0,1]$, of which the farmer has an endowment of total possible working time of $\bar{e}$, where $\bar{e} \leq 1$, and yielding an output A. The resulting output A has a probability of occurrence of $e^{1/2}$ and may be zero with a probability of $1 - e^{1/2}$. Therefore, under this simple model, the expected output is:

$$Q = A e^{1/2} \tag{1}$$

In this framework, the farmer's expected consumption is given by Q and his leisure time is given by $\bar{e} - e$.

The economic agent is assumed to be maximizing his utility function, U, which is linear in consumption, c, and leisure, l. Thus, we assume the farmer is subject to the condition $e \leq \bar{e}$ and wants to maximize his utility by setting his working efforts e.

Therefore, the entrepreneur's problem is as follows:

$$\max U(c, l) = c + l = A e^{1/2} + \bar{e} - e \quad (2)$$

Moreover, to simplify the analysis, it is assumed that there are neither income effects nor risk aversion considerations.

Besley and Ghatak (2010) consider a given probability of expropriation τ which always represents a failure of the farmer for fully enjoying the fruits of his working efforts. Thus, in this instance, τ represents insecure property rights which may take the form of a tax or stealing, but always means the loss of a portion of the entrepreneur's production. Under given expected taxation (or expropriation) in the economy, represented by τ, since part of the producer's output is not going to be available for his consumption, the entrepreneur's problem is now represented as follows:

$$\max U(c, l) = c + l = (1 - \tau) A e^{1/2} + \bar{e} - e \quad (3)$$

$$\text{subject to } \bar{e} - e \geq 0$$

Solving $\delta L/\delta e$ while considering the constraint $e \leq \bar{e}$, we obtain the optimal choice of the entrepreneur's working efforts:

$$e^{*} = [(1 - \tau) A / 2]^2 \quad (4)$$

Since, according to the model, total output, Q – equation (1) – is strictly dependent upon the entrepreneur's working efforts, e, then it is easily seen by equation (4) that the highest the expected value of τ the lowest the stimulus of the farmer to work the land. In simple common words, it is understandable that people will reduce their propensity to work hard if they are expecting that a significant portion of their production efforts is going to be enjoyed by someone else. Hence, in this instance, the entrepreneur maximizes her utility by preferably engaging in leisure activities.

Similarly, under a full-employment enacted economic environment, the problem of the individual who has the capital to start a business but considers finding a job instead may be conceptualized following the same reasoning. We begin considering a laborer who can choose between several employers and will be yielding a portion of his total production. After finding his job, he commits effort (time), where effort $e \in [0,1]$, of which the laborer has an endowment of working time of $\bar{e}$, where $\bar{e} \leq 1$, and yielding an output B. Analogously, the resulting output B has a probability of occurrence of $e^{1/2}$ and may be zero with a probability of $1-e^{1/2}$. Therefore, the expected output produced by the employee is:

$$Q' = Be^{1/2} \tag{5}$$

The employee is also assumed to be free from income effects or risk considerations.

The employee is assumed to be maximizing his utility function, U', which is also linear in consumption, c, and leisure, l. Thus, we assume the employee is subject to the condition $e \leq \bar{e}$ and wants to maximize his working efforts, e. Consequently, when the employee can grab all his production, the employee's problem is as follows:

$$\max U'(c, l) = c + l = Be^{1/2} + \bar{e} - e \tag{6}$$

However, it is expectable that any employer considering hiring a new employee is aiming at a portion of the employee's production, β, otherwise, the employer would not bother to assume such a responsibility. In common words, it will always be expectable that an employer only is prone to hire a new employee if he can profit from using the additional working efforts. Therefore, a parcel of the employee's production is expected to be taken away from him by the employer. Hence, the employee's problem is represented as follows:

$$\max U'(c, l) = c + l = (1 - \beta)\, Be^{1/2} + \bar{e} - e \tag{7}$$

$$\text{subject to } \bar{e} - e \geq 0$$

Solving $\delta L/\delta e$ while considering the constraint $e \leq \bar{e}$, we obtain the optimal choice of employee's working efforts:

$$e'^{*} = [(1 - \beta)\, B / 2]^2 \tag{8}$$

To evaluate if a full-employment economic reality stimulates or inhibits entrepreneurship we need to compare the resulting optimal choice of the individual when acting as an entrepreneur, e^*, with the resulting optimal choice of the individual when acting as an employee, e'^{*}. Hence, under the model assumptions, the individual will be indifferent between each of the options when $e^* = e'^{*}$. Consequently, the individual will be indifferent between engaging in entrepreneurship and accepting a job as a regular employee when:

$$(1-\tau)\,A = (1-\beta\,)\,B \tag{9}$$

Which is the same as:

$$\frac{A}{B} = \frac{(1-\beta\,)}{(1-\tau)} \tag{10}$$

This is a very interesting result. If we consider that the individual is able to produce the same output either working as an employee or as an entrepreneur (hypothesizing $A = B$) then the individual will opt for being an employee only if the amount of total production which is expected to be withdrawn from him by the potential employer, β, is lower than the amount of expropriation, τ, which he expects to be facing when engaging in entrepreneurship. Moreover, if the individual understands he is rather productive as an entrepreneur than as an employee, then he will be seeking an employer only if the amount of his total production withdrawn by the employer, β, is smaller than the amount of expropriation of total production, τ, which he expects to be facing when engaging in entrepreneurship (in equation (10), if $A > B$ then $\beta < \tau$ for the indifference condition to hold). In common words, for an equal total expected output, working either as an entrepreneur or as an employee, the individual will prefer to seek a job instead of creating its enterprise if, and only if, he expects the new employer to take from him less than the government does by taxation upon entrepreneurship.

This analytical result has deep economic consequences. First of all, this result evidences that economic agents' committed working efforts increase as government expropriation decreases, and as employers increase the wages paid to their employees. It is worth mentioning that this latter result is consistent with prior research which finds a positive and significant statistical relationship between the real wage and the laborers' predicted effort (Goldsmith et al., 2000).

Secondly, another important result is that for the indifference condition to hold it is required that employees' total production capacity approach their capacity as entrepreneurs, otherwise, they will be prone to accept higher tax rates when acting as an entrepreneur. This is a situation leading to reduced efforts commitment, and, accordingly, economically inefficient. Therefore, increasing individuals' professional qualification is paramount for enhancing economic efficiency.

Thirdly, it shows that, by enacting full employment while creating the conditions for economic agents to opt between engaging in entrepreneurship or seeking a job as a regular employee, greed will be the driver of economic agents' behavior. Indeed, productivity likely improves under the full-employment economy. Every person will be committing working efforts according to his evaluation of the maximum output he can produce. This leads each person to reason in terms of his best efforts, rather than just considering the maximum wage he may be able to get by complying with a nine-to-five regular job. The individual will be reasoning in terms of her productive ability rather than thinking in terms of her expropriation ability of a parcel of employer's potential output, as it may happen currently.

Finally, this result outlines the importance of having a flexible labor market for increasing productivity; where 'flexible labor market' means the ability of employers and employees to freely set both working time and wage, while employees being free to change employer at will. Regardless of individual idiosyncrasies concerning preferences and risk, the individual rather is engaging in entrepreneurship every time an employer is offering a too small salary compared to what the individual expects to be earning as an entrepreneur. Hence, this instance employers' awareness alone will lead them to pay higher wages than what it happens nowadays; and the economy will move towards diminishing income inequality while truly approaching a perfectly competitive environment.